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ESSAY ON DISEASES COMMUNICABLE FROM THE LOWER ANIMALS TO MAN.*

BY MR. R. PEECH.

(*Continued from page* 241.)

NUMEROUS experiments on young pigs, calves, and hens have been recorded, in which tuberculosis has evidently followed their being fed with tuberculous milk.

Professor Bang, of the Royal Veterinary School, Copenhagen, gave the result of a careful examination of 27 cases of tubercular disease of the udder of cattle, in the milk of which he was able to demonstrate the tubercle bacillus, both directly under the microscope and in the sediment obtained by means of the use of a centrifugal separator.

When we consider the occurrence of tubercle bacilli in the milk, along with the feeding experiments already recorded, and that the great prevalence of tubercle in certain classes of animals, affords very strong presumptive evidence that milk is a source of tubercular infection, especially in children, and in those in whom, on account of imperfect nutrition and impaired digestion, the walls of the alimentary canal are less able to resist the invasion of the organism known as Koch's Bacillus Tuberculosis, the danger of contracting tuberculosis from taking the flesh of cattle affected with disease is perhaps not so great as that associated with the drinking of tuberculous milk. It is, nevertheless, one with which the sanitary authorities will have to deal, and one to guard against which it is necessary to take very considerable precautions. There can be little doubt that in those cases where the disease is

*Read before the Edinburgh Veterinary Medical Society.

localised to one of the viscera at the time of the death of the animal, there is little danger to be anticipated from eating the well-cooked flesh from other parts of the animal, and if we could be absolutely certain that the localisation was complete, all would be well.

Even in flesh taken from advanced stages of tuberculous disease, there would be a certain proportion of cases in which no evil results would follow, and one observer who made 62 experiments with such flesh boiled for 10 to 15 minutes, found that only 35·5 per cent. of the inoculated animals became tuberculous.

Even in cases of generalised tuberculosis, Nocard failed in 39 out of 40 cases to transmit the disease by means of raw muscle juice injected into the peritoneal cavity of guinea-pigs, but he produced it in the fortieth.

Sims Woodhead was able to produce tuberculosis in two rabbits by injecting into the peritoneal cavity the raw juice expressed from the intercostal muscles of a tuberculous cow, after all tuberculous pleura had been already "stripped"; whilst the juice taken from the muscles of the thigh, injected into two other rabbits, was perfectly innocuous.

The danger of infection by the consumption of meat from tuberculous cows, may have been much exaggerated, but that there is a very appreciable danger must not be lost sight of by the medical officers of health and the veterinary inspector.

The next disease I wish to call your attention to is one, which, unfortunately, is of a far more common occurrence than is generally known, viz., actinomycosis.

This is a specific disease due to a parasite known as the actinomyces or ray fungus. It manifests itself in cattle, frequently in the jaws, where it is known as wen, osteo-sarcoma or bony sarcoma, malignant tumour of the palate, in the tongue, the pharynx, the loose tissues under the skin of the head and neck, and the lungs, stomach and intestines.

In the pig it is generally found affecting the milk glands. In the horse, usually as scirrhous cord, and also in the tongue.

In man, the lesions resemble in character those met with in the pig (*i.e.*), abscesses in the lungs and pus in the pleural cavity, and to similar condition of other organs; the bones, especially those of the spinal cord, are frequently attacked. On examination of the fungus under a high magnifying power, the organism is found to be like the capitulum of a daisy, the sterile flowers in the centre corresponding to the club-shaped rays; and if we conceive of two of these heads of

flowers as placed base to base, or stalk to stalk, you may obtain an idea of the appearance of the ray fungus as a whole.

This parasite was first cultivated in sterilized gelatine, then on agar-agar, blood serum, and on the raw white of egg, the latter being the best.

As to the mode of infection, it has been pointed out that the actinomyces has been found lodged in the crypts of the tonsils of a pig, and of the human being, and that the parasite evidently leads an epiphythic life on cereals. It may be inoculated from without through wounds, as in case of scirrhous cord of the horse, or by means of scratches of the skin, mouth, or pharynx, and it is recorded that a case of primary mediastinal actinomycosis in the human subject was supposed to be traced to perforation of the back of the throat by a barley spikelet swallowed by the patient.

Perhaps the best way to stain the parasite is as follows:—Take cover-glass preparation, press it very thin, then dry it; stain Licht-Neelsen's fuchsin solution, wash in water, and then decolorise in a saturated alcoholic solution of picric acid. When red colour has nearly disappeared, place it in a large vessel of water and leave it for twenty-four hours, the water being frequently changed. Pass it through spirit, oil of cloves, and xylol. The actinomyces are stained deep red on a yellow background.

We now pass on to a disease which has recently caused more interest than any other in the whole range of pathology, viz., rabies. Rabies is a specific virulent disease, in which a contagium or infecting element is generated, which, when transmitted to other creatures by means of a bite or inoculation, is capable of inducing the same pathological disturbances and changes after a variable period of latency. These are produced through the media of the blood, the brain and spinal cord being particularly involved, and the poison is, in all probability, thrown off chiefly by means of the salivary glands.

It is said to arise spontaneously in the canine, feline, vulpine, and some other allied species of carnivorous animals; it is communicated by inoculation, not only to these, but to herbivora, omnivora, and man; in fact, to all warm-blooded animals.

This disease in man is technically called hydrophobia, which seems to imply that actual fear or dread of water is a conspicuous symptom of the malady. This is true in the human being, but not in the lower animals.

In the human being the symptoms seem to be somewhat as follows:—After a bite there may be no symptoms for a month or six weeks, or even twelve months, during which time the poison lies latent in the system. At the end of the incubative period the wound begins to itch, and is excessively hot, the patient becomes feverish and very thirsty; the face is pallid and has a peculiar anxious expression, the muscles of the face are drawn and restless; the expression now amounts to one of actual terror or horror. The patient becomes more excited and has a characteristic habit of giving a side glance, as though looking out for some hidden danger, then delirium sets in, thirst increases, great difficulty of swallowing—especially fluids—and after trying to swallow, the very sight of water suggests such horror, that thirsty as the patient is, he is anxious to avoid it.

Muscular tremors followed by violent spasm of the muscles set in, then convulsions; eventually the patient is slowly suffocated. Who can wonder that to a man of Pasteur's temperament and mode of thought such a terrible disease as that, the symptoms of which I have just sketched, would just be the one subject to fascinate him? Knowing that if success crowned his efforts he would confer a blessing on all humanity, he set to work and found that the virus had always the same action in the same species. Thus in a dog the virus is of a constant strength, and inoculations made from dog to dog kill the animal with the same incubative period, the same symptoms and practically in the same time. When inoculated from dog to the monkey, the virus becomes less virulent or attenuated, the attenuation becoming more marked in successive inoculations from monkey to monkey, until the virus is so attenuated as not to cause the death of this species. But if this attenuated virus be inoculated into a rabbit, a dog, or a guinea-pig, in course of time it again gains its original virulency, while if rabbits are inoculated with primary fluid from either the dog or the monkey, the virulency may become so exalted that it is considerably greater even than the virus from the rabid dog.

Having found, then, that the virus could be attenuated or intensified, and that different animals were affected in a different degree by the same virus, Pasteur set himself to work out the question whether it was possible to so alter the resistance of an individual that a virulent hydrophobic material would have little or no effect on the tissues. The only way in which this could be done appeared to be by the introduction of an attenuated virus into the animal that had

to be rendered immune, and so to accustom the tissues to the presence of the specific poison. He thought, in fact, that by successive inoculations of stronger and stronger poisons he would be able gradually to "acclimatize" the tissues to even the strongest virus, and so enable them to deal with it successfully, probably by converting it into an innocuous proteid material, so rendering it harmless to the delicate and highly organized cells of the nervous system. Pasteur would not let thinking suffice, but carried his idea into action, and eventually rendered dogs immune against the bite of a rabid dog; but far more than that, thanks to the indefinite period of incubation of this disease, he was able to render the human being bitten by a rabid animal immune before the virus of the original inoculation had time to do its deadly work.

Even the most pessimistic cannot but see in this recent discovery, as in many others made quite recently, that the grand march of science is nowise either less quick or less sure than in the days of Bacon and of other masters. Think, for one moment, of the rapid strides science has made during the past few years in the scope of our power over disease, whether by therapeutics or hygienic measures, or other modes of prevention or combating the maladies animals are subject to. But still look for greater powers soon to be gained.

I am sorry time will not allow me to give you the experiments which led Pasteur up to that wonderful discovery.

I may state with reference to inoculation in the human subject as a cure for the disease, that, in 1886, out of 2,682 cases, the mortality was 13·4 per 1,000. In 1889, 5·4 per 1,000, showing the mortality is greatly on the decrease.

We now pass on to a disease which affects the cow in a very mild form, but, nevertheless, is a disease of considerable importance. I now allude to variola vaccine. This disease is a contagious, febrile, eruptive disease, known in most parts of the globe as resulting from a fixed virus. After a period of incubation of from five to nine days, the contagium causes the development of an eruption on the surface of the mammary gland, which eruption passes through the stages of pimple, vesicle, pustule, and scab.

It seems to be established beyond doubt that cows may get it from the direct contact of the hands of the milker, who is suffering from small-pox.

Messrs. Ceeby and Badcock inoculated cows with small-pox lymph, and the result was that at the seat of inoculation pustules, exactly like those of cow-pox, were produced.

Moreover, with the contents of these they imparted cow-pox to healthy cattle, and to the human being, an affection exactly like that brought on by actual vaccination.

It may be that cow-pox is nothing else than small-pox communicated to the cow from man, but this is enveloped in mystery, and, perhaps, never will be unravelled.

This disease has also been communicated to cows, and also bulls, by enveloping them in blankets taken from the bed of a patient who had died from small-pox.

Vaccination.

I think it is only necessary in an essay of this description to touch very lightly on this interesting subject.

Vaccination was first introduced into this country by Lady Mary Wortley Montague, in the early part of the 18th century. She had seen the efficacy of this method in Constantinople, to which place it had been introduced from Persia and China. But it was not until the year 1795 that the great value of vaccination was proved by Edward Jenner. A description as to how the operation is performed, and the exact changes which take place, are, I think, uncalled for, as everyone here, this evening, has been through it once, some twice, and some, I daresay, even thrice.

You will see that though cow-pox is not a disease of very great importance in its relation to oxen, in fact rarely proving fatal, yet it is one of utmost interest and moment when looked upon from the standpoint of the welfare of the human being.

It may be that the virulent disease known as small-pox of man, when communicated to cattle by the media of the milkers or by inoculation, loses a great deal of its power for mischief—indeed so much so that when again inoculated upon man it merely gives rise to transient symptoms, which, however, protect against small-pox.

The next disease I wish to touch upon is stomatitis pustulosa contagiosa in the horse.

In the summer of 1876, several cases of a contagious disease appeared in and outside the clinic of the Berlin Veterinary College, presenting phenomena similar to those of variola, and chiefly affecting the mucous membrane and external integument.

Small nodules were formed on the oral mucous membrane; they rapidly increased in number and size, extending to cheek, tip of tongue, and upper lip; the skin of the breasts and four extremities were affected in some cases.

A student inoculated himself with the infection. There was redness and unpleasant itching and swelling of the part, the formation of a pustule, over which a yellow brownish crust formed, which fell off in 14 days, leaving a deep cicatrix.

Other four gentlemen inoculated themselves without infection.

The next disease I shall touch upon can be disposed of in a very few words, viz., foot and mouth disease. It is said that if children are allowed to drink the milk of cows suffering from this disease, they get a vesicular eruption on the mucous membrane of the mouth, pharynx, larynx, and intestinal canal, and which is known to medical men as thrush.

I wish to insert here, with the briefest possible allusion to a question which has been forcibly brought before our notice of late, as to whether diphtheria of the lower animals is communicable to man?

In the year 1882, Dr. Turner examined a pigeon and found the whole of the trachea covered with a consistent membrane hanging loosely in the tube like a wind-sail, just as is found in the body of a child who has died of croup. The fauces of another pigeon were inoculated with this membrane, with the result that a similar disease appeared.

In 1883, an epidemic of diphtheria broke out at Braughing. The first cases were connected with a farm, on which farm the fowls were dying of a disease apparently identical with the disease of the above-mentioned pigeon. Diphtheria made its appearance on other farms, where it was also preceded by a similar affection among the fowls. The same author mentions that he has seen chickens and pigeons, which have been inoculated with diphtheritic membrane from a child's throat, attacked as if with natural fowl diphtheria. He also mentions that at one outbreak both the horses and swine were affected with sore throats immediately after the epidemic among the human beings.

Dr. Klein states that diphtheria has been transmitted from the cow to the human subject by means of the milk.

Dr. Turner also states that one outbreak among human beings was preceded by a severe throat affection of the kittens in the house. In other cases it followed a case of strangles in the horse. He quotes three or four outbreaks which were preceded by strangles.

Dr. Ogle relates that he met with a case in which diphtheria broke out in a shepherd's family after a throat disease had prevailed among sheep.

There seems at least sufficient evidence to encourage careful inquiry as to the connection between diphtheria in man and certain affections in animals. What is known at present seems to be very incomplete and short of imparting satisfaction.

The last disease I wish to bring before your notice is scarlatina.

This disease is said to affect cows usually newly calved, and the local manifestation of the disease is a vesicular eruption on the mammary gland, known as erythema mammillarum or sore teats. Dr. Cameron says: The disease is transmitted from a diseased cow to healthy ones, by means of the milker, and by the discharges from the nose, mouth, and eyes, the virus being no doubt a streptococcus.

Dr. Klein demonstrated the micrococci to be present in the vesicles and to grow abundantly in milk, and if calves were inoculated with the virus, symptoms very similar to those exhibited by the cow were set up.

He also found that the micro-organism was in all essential respects similar to that taken from the blood of human beings suffering from this disease.

Doubtless some of you will remember that outbreak of scarlet fever in London in the year 1885, when suspicion fell on a dairy situated at Hendon. Since then there have been several other outbreaks in different parts of the country, which have been traced by medical men to a similar affection of the mammary gland.

I may state that a good many eminent men in our profession do not believe in the above theory.

In conclusion: Firstly, I must apologise for having detained you so long, but really in writing an essay on such an important subject as this one is, I found it of the utmost difficulty to know what to retain and what to throw on one side. I do not feel that I have done justice to this subject, but on the other hand, I hope my endeavour to interest you has not been altogether lost. You will also notice I have not touched upon parasitic diseases, but I hope some other member of this society will take it up, as a subject to read before this meeting.

I may state that these questions as to the connection between allied diseases of different classes of animals deserves the most thorough and painstaking investigation, as indeed they are now receiving at the hands of able scientists. Years and years of prolonged labour and research may be necessary before we are able to say that

we really comprehend the workings of disease; and no one should lose an opportunity of arousing some of that enthusiasm among workers in the field of science, which must be acquired in order to carry them through the immense amount of labour, which is necessary to solve these weighty and momentous questions. But doubtless the subject is one even as yet in its infancy, and one in regard to which our successors in the future will doubtless devote much earnest attention, to the no small benefit of mankind in many most important ways, the chief of which is the light which specially bovine pathology will throw upon the diseases of the human being. The onward progress of science should be compared to the children's snowball, which, unlike the rolling stone said to gather no moss, grows larger and larger and with each successive revolution adds still a greater quantity of snow than with the last. Thus it is with science the great lever by which human beings may hope not only to remove a great deal of mystery wrapped up in life, but also to live in the best way possible, and so do their duty so far as it is shown to them for the brief space during which they are, for some unknown though doubtless great purpose, sojourners upon the face of this earth.

TWO SUCCESSFUL CATARACT OPERATIONS ON A DOG.*

BY ROBERT L. RANDOLPH, M.D.

IT is generally known that cataract is not uncommon in the lower animals, and especially in the dog and horse. In the horse, cataract is apt to be the result of recurrent iridochoroiditis, and this latter affection, as seen in the horse, is remarkable for its tendency to relapses, appearing often periodically, and representing the disease known as "moon-blindness." Cataract, then, in the horse, is almost always inflammatory in its origin.

When cataract is found in the dog, there is no such history of a coincident inflammation, but we find a condition that differs little from the same affection in man. With regard to the operation for cataract in the dog, no special difficulties are presented as contrasted with the same operation in man, except that we are compelled to use a general anæsthetic in the former case, and this is a disadvantage. Cocain has undoubtedly lessened the gravity of cataract operations.

* Read before the Johns Hopkins Medical Society.

It is evident that the healing process in animals is surrounded with far greater dangers than is the case with human beings, and it is this, no doubt, that deters us from operating for cataract in the lower animals.

Early last October A. W. Clement, veterinary surgeon, of this city (Baltimore), brought to my office a handsome pointer dog. The dog was perfectly blind, and had been sent to Dr. Clement for relief. He was eighteen months old, and in fine physical condition generally. His master said that he had been going blind for three months, and at the end of that time only light perception was left. On the street he would crouch at his master's feet at the sound of an approaching vehicle, and could not be dragged away till the vehicle had passed. When brought to my office and allowed to smell around the room, he ran into the wall and chairs at almost every turn. In being led one had to pull him along, as he was fearful of running into objects. On examination I found both eyes free from irritation. The pupils quickly responded to light. With the ophthalmoscope it could readily be seen that the lenses were opaque, and on using a mydriatic I found that they were uniformly and entirely opaque. The colour presented by the cataract was more a milk-white than grey, not unlike what we see in the ordinary traumatic cataract when there has been extensive laceration of the anterior capsule and the whole lens has become immediately opaque. A similar appearance is presented by the so-called naphthalin cataract that I have produced in rabbits by feeding them on naphthalin in the manner described by Dor, Panas and others. Such cataracts belong to the variety known as soft cataract. I determined to perform discission, so the dog was first given a hypodermic injection of morphia and then chloroformed. My instruments were boiled a half-hour before using them. Only two instruments are necessary, the needle and fixation forceps. The lids were held open by an assistant. At this time I operated on the right eye, and I may add that the pupil of the eye had been well dilated with atropia before the operation. The needle was passed into the cornea in the usual way and a crucial incision was made in the anterior capsule. Atropia was instilled and the dog was put into a small kennel and allowed to recover from the effects of the chloroform. The next day there was a large mass of cortical substance protruding into the anterior chamber. The recovery was absolutely uneventful and at no time were there symptoms of irritation. At the end of the first week Dr. Clement observed that the dog went about the stable-yard with greater freedom.

He was confined to his kennel for two weeks and whenever let out into the yard he was closely watched by the stableman. In three weeks there was a perfectly clear pupil, and only within the extreme ciliary margin of the pupil were there any remains of the capsule to be seen. During this time atropia was dropped in the eye three times a day. At the end of three weeks I made the following test: I arranged several chairs in such a manner as to form a zig-zag path leading from one room through a narrow door into the adjoining room, and then went into the adjoining room and called to the dog. He came along the path laid out for him without a pause. This he did several times without striking a chair. I then placed a chair in the doorway and called to him and he jumped over the chair to me without the slightest hesitation. That day I operated on the other eye and used cocain. The dog was exceedingly restless and had to be held down. This restlessness was not due to pain but nervousness, but it was enough to convince me that a general anæsthetic is indispensable. The operation was similar to the first one, and in five weeks there was to be seen only a small band of capsule lying in the pupillary area.

At this time it was impossible to detect anything wrong with the dog's vision. He moved about with freedom and rapidity, and ten days later his master, Mr. W. T. Wilson, of the city, wrote me that he had taken the dog out on a hunt and had found him just as efficient as ever in so far as his hunting qualities were concerned, and that he jumped fences and ditches as readily as the other dogs in the field.

It seems that the effect of the operation was to give the dog a vision that is practically perfect. At this time both Dr. Clement and I thought the case a unique one, and as far as I can learn it is unique in this country, but since then I have found quite a number of operations of a similar character reported in foreign journals. Among others, White Cooper, in 1850, gives an interesting account of some succcessful operations for cataract performed on bears in the London Zoological Gardens. Discission was the operation employed. Brogniez reports a case of successful cataract operation on a horse nine years old, and Chégoin operated successfully on an ass twenty-one years old.

As a general thing, cataract in the lower animals appears in the earlier years of life, and when it occurs in the horse Crisp thinks the cause is to be found in bad light and abundant exhalations of ammonia. Crisp is of opinion that constitutional affections have little, if anything, to do in the

causation of cataract in the lower animals, for usually the animals affected are well nourished and live for years. It will be remembered that the physical condition of my case was perfect so far as could be seen. Haltenhoff reports a case of cataract in a dog associated with diabetes; but on the other hand, Professor Moeller, of the Veterinary School in Berlin, who has operated a number of times for cataract in dogs and horses, has never found diabetes present, and this has also been the experience of Professor R. Berlin. I failed to test the urine in my case, but the general history of the dog would exclude any such complication; and I may add that in those cases of cataracts in rabbits produced by feeding them on naphthalin, frequent examinations of the urine failed to show the least evidence of sugar, though some of the clinical symptoms of these cases suggested diabetes, as, for instance, progressive emaciation, hurried breathing, and an excessive flow of urine.

In speaking of the causes, though, of cataract, in dogs more particularly, it is well to note the fact that accommodative strain, which may be a factor in bringing about cataract in man, can here be excluded; and inasmuch as good vision was obtained in the majority of the cases reported, it is not likely that a disease of the retina or choroid had anything to do with the existence of the cataract. Another interesting fact in connection with this case is the rapidity with which the cataract developed. Within three months after the vision began to fail the dog was blind. I was struck by the shortness of the time required for the absorption of the lenses. Ordinarily, even in very young children, it takes at least two months before absorption is complete, while in those who are older, a year or more with several discissions is the rule. In the first eye absorption was practically complete in three weeks, and in the fellow eye nearly all the lens substance had disappeared at the end of five weeks. One would be apt to think that so far as usefulness was concerned the dog would be worthless, but it will be remembered that this was not so.

I am sure that the absolute necessity of artificial help in the shape of glasses for cataract patients is much overrated. There are cases on record (quoted by White Cooper) where after the operation for cataract the patients were compelled, for the sake of experiment, to get along without glasses—in other words, to accommodate their eyes to the new refractive conditions, and after a few months they could get along quite comfortably, though of course unable to read. The vision of

every animal (man included) is no doubt limited to the needs of the animal. It is not likely then that dogs are possessed of human visual acuteness, and it is evident they do not require such vision. Certainly few, if any, demands are ever made upon the accommodative apparatus of the dog's eye, so that the loss of the crystalline lens would be attended with comparatively little or no inconvenience, and the same may be said of the horse.

Possibly, the good sight in these cases is to be accounted for by a reproduction of the lens fibres, and in this connection I may refer to the experiments of Cocteau and Leroy d'Etiolles. These observers found that in a certain length of time after the removal of the crystalline lens in rabbits, dogs, and cats, that another lens was formed. It is a curious fact that in several of these experiments the capsule showed no cicatrice, but was perfectly clear, and contained a lens as voluminous and consistent as the lens that was extracted, and differing in no respect from the latter. Gunn reports a case of traumatic cataract that had occurred in a child, where, after the absorption of the cataract, later on in life new lens fibres were demonstrable. By this time a reproduction of lens fibres may have taken place in my case, but we are not justified in attributing the good vision obtained to such a process, for sight improved at the end of the first week, and the formation of new lens fibres would not, likely, have begun till the absorption of the old lens was complete.

From investigations made in the London Zoological Gardens it has been found that cataract is common to nearly all of the lower animals, but it is a suggestive fact that cataract is most often seen in the two animals nearest man, the dog and horse. Neither extraction nor couching seems to be proper in operating on the lower animals. The impossibility of keeping the animal quiet, or of surrounding it with any of the usual safeguards, is an objection to extraction. While Moeller has had several successful cases of extraction, he states that his best results followed discission. As to couching, the danger of intraocular inflammation makes this operation quite as objectionable here as it is in the case of man. In my opinion discission is the only operation applicable to these cases. A general anæsthetic is indispensable. A bandage should not be applied, as it attracts the dog's attention to his eye, and it will be rubbed or torn off and injury to the eye would result. It is imperative to use a sterile knife, for we cannot here nullify the effects of infection by careful after-treatment, as we sometimes do in

man. A small kennel is necessary, so that no temptation is offered to the dog to move about; and finally a 1 per cent. solution of atropia should be dropped in the eye three times daily during the first three weeks. As regards the anæsthetic to be used, my preference—from considerable experience—is in favour of ether, and I have always been under the impression that it was particularly unsafe to administer chloroform to dogs. Dr. Clement tells me that he always gives chloroform and precedes the administration of it with a hypodermic injection of morphia, and that he has never had any unfortunate results, a fact which he thinks is explained by the administration of the morphia.

DISTOMATOSIS IN CATTLE.

BY VETERINARY-CAPTAIN H. T. PEASE, F.Z.S.

THE occurrence of Distomatosis as a serious epidemic disease amongst cattle in India, has not been sufficiently brought to notice, although the presence of the fluke has been frequently noted in the livers of oxen which have succumbed to other diseases. The chief causes of this are ignorance of the diseases attacking cattle, and the fact that the parts of the country where this malady occurs are for the most part not situated where veterinary aid can be obtained, nor are men trained as cattle doctors sufficiently educated or supervised to admit of diseases being carefully diagnosed.

In very many parts of India the conditions are extremely favourable for the development of low forms of animal life, and sheep fluke is a scourge. The country in such parts is subject to periodical inundations, which gradually subside, leaving marshy land, producing a growth of coarse grasses and sedges, an extremely favourable soil for the development of infusoria and other low forms of animal life. An outbreak of Distomatosis is now reported by Stock Inspector Seethamber Davoo, from the neighbourhood of the Collair Lake in the Godaveri district where it is locally named "Iduga," and the disease is also known in parts of the Punjab under the general name "Panilag."

A brief notice of the disease as it occurs in the Collair Lake may prove of interest.

The Collair Lake is surrounded by the villages of Ellore, Bhumavaram and the Gudwada taluqs. The fields on the border of the lake are inundated during the rainy season owing to surplus irrigation water flowing into it. The lake contains the greatest amount of water during the rains, *i.e.*,

in the months of September and October, and this gradually evaporates from December to May, during which latter month the lake contains the minimum quantity of water and this quantity is pretty constant until the early rains. The shores of the lake are at this season densely covered with decaying mosses, the water being black and muddy and emitting an unpleasant odour. The disease "Iduga," which causes great mortality amongst cattle and sheep, is enzootic in this tract, and according to the accounts received from village officers appears to carry off four or five head of each cultivator's stock annually. Paddy (rice) cultivation has been extended up to the borders of the lake, and the people are obliged to send their cattle during the cultivation season to the uplands to graze, and after the harvest bring them back to graze on the shores and in the bed of the lake from February until June. The cattle, when they are put on to the lake to graze, improve in condition and milk yield and this continues for some time afterwards, but is followed by gradual loss of condition. The people say that cattle fed on the grass grown in the stagnant water are certain to contract the disease. There is a general complaint in every village that a great number of cattle, especially buffaloes, die annually, and that they suffer much loss in consequence. The permanent "Kurnam" of Siddapuram complained that he had bought eight hundred rupees worth of cattle last year, but only a few remain now. It appears that the greatest mortality occurs during the transplanting of paddy.

The most marked symptoms of this disease are gradual emaciation, unhealthy appearance of the skin, watery condition of the mucous membranes, and what is more especially noticed by the people, the appearance of œdemata on the dewlap, and sometimes also in the submaxillary space, and under the abdomen. The skin becomes dry and the animal hide-bound. Digestion is deranged, rumination irregular, and the action of the bowels irregular, the animal is occasionally constipated, at other times suffers from diarrhœa. These symptoms gradually increase in intensity, and the diarrhœa becoming marked, death supervenes from exhaustion at between two to four months after the first symptoms have been noticed.

The following *post-mortem* appearances were noticed in a buffalo dead of the disease :—

Body extremely emaciated, the skin tight and dry, dropsical effusion into the subcutaneous tissues, the fat replaced by a gelatinous material. All the tissues were pale

and flabby. Liver greatly enlarged, all ducts filled with flukes, about five ounces in quantity, and the gall bladder also containing a number of them, about 100, the bile of a black colour, duct dilated, the right lung congested, and exhibiting a dark nodule on the external surface.

INTESTINAL OBSTRUCTION IN THE HORSE.

BY I.

MUCH as has of late been written on intestinal obstruction in the horse, it is a subject of never-failing interest to the veterinary surgeon; and the following brief remarks of a case which terminated fatally, in which the obstruction was due to the presence of a tumour situated at the junction of the floating colon and rectum, will, I trust, prove of some interest to readers of the VETERINARY JOURNAL. The specimen was forwarded to Principal Williams for examination, and he has kindly promised to describe its nature and appearances. We constantly hear of cases of obstruction due to twists, displacements, strangulation, &c., but seldom are tumours demonstrated as giving rise to this condition; more seldom still are we able to diagnose to a certainty their presence during life. But in this case the diagnosis was made comparatively easy, inasmuch as the tumour could be felt on rectal examination. The subject from which the specimen was taken was a seven-year-old cart gelding, in good condition. There was no history of previous illness for several years, at least. The animal was first noticed to be ill, with symptoms of colic, on Sunday, December 22nd of last year. Various remedies were tried, but the pains, however, continued, and I saw him for the first time on Monday, the 23rd. The symptoms were more or less continuous abdominal pain, as shown by the animal looking at the flanks and pawing with the fore-feet. The pains were never very severe, and, when down, the horse would lie quiet for twenty or thirty minutes. The pulse and temperature, however, plainly showed mischief, the latter on my first visit being 103 F., and the pulse 70, gradually rising to 105 F. and 100 respectively. There was also that characteristic expression of the face seen in enteritis, but not quite so pronounced, perhaps, as in an acute attack of that fatal disease. It was not until my second visit on the 24th, I made out the nature of the case, owing simply to a too hurried examination per rectum on my first visit. As already said, the tumour was attached to the floating colon at its termination, almost blocking the entrance

to the pelvis, and it was with some difficulty that the hand could be passed beyond. Owing to ulceration the hand, when withdrawn, was covered with shreds of dead tissue and clots of blood, emitting a most repugnant odour. The animal lived until Friday, the 27th. During this time there was complete obstruction, nothing being passed beyond what was removed by the hand. The only medicine used was chloral hydrate alternately with ext. belladonna. No other tumours were found at the *post-mortem* examination, which was made under considerable difficulties on a dark and wet night with the aid of a carriage-lamp.

[EDITORIAL NOTE.—The tumour which weighed 11½ lbs. was of a firm consistence, and on section was of the palest pink colour. The surface had a lobulated appearance. The growth had apparently begun in the submucous connective tissue, and pushed its way through the peritoneum, and formed a large pendulous mass, inseparably connected with the bowel. Inside the bowel was ulcerated through, and a shallow cavity, where frequent hæmorrhages had occurred, had been scooped out of the tumour. On hardening, and examining microscopically, the growth was found to be a sarcoma and more nearly conformed to a lympho-sarcoma than to any of the other varieties. In places the section showed a mass of large round cells, in other parts bands of fibrous tissue advancing among the cells shaved off groups of them much in the same manner as one sees occurring in common cirrhosis of the liver. The cells in the groups were seen under the high power to have changed from round to spindle cells in many cases, and appeared to be forming more new fibrous tissue.]

PATHOGENIC BACTERIA.

PROFESSOR BRADLEY, at a meeting of the Border Counties Veterinary Medical Society, gave a lecture, or rather lantern demonstration of "Pathogenic Bacteria," of which the following is an abstract:—Bacteriology, he observed, had made such rapid strides of late years that it was necessary that all veterinary surgeons should possess a knowledge of the life history of these minute organisms, in order to adequately cope with an outbreak of contagious disease. It was often remarked that a great deal of imagination had to be brought into play in connection with bacteriology, but the images he now showed by the lantern were from photographs of the actual bacteria, and the negatives had not been retouched.

The most common surgical case a veterinary surgeon had to deal with was a wound of a suppuratory type. He exhibited a slide of organism almost always found in pus. Numerous different germs were described, but the most common one was that which he now exhibited, the staphylococcus pyogenes aureus. It was known by this name from its mode of growing in little clumps, and because as a rule the pus in which it was found was of a golden colour. The question arises whether suppuration can take place without the presence of germs. One is not in a position to assert definitely either one way or the other. A number of experiments had been conducted to try and prove that these germs were there by accident, and were not absolutely necessary to the production of pus. One experiment he might quote was conducted by Councilmann and others. They took certain irritating chemical bodies, *e.g.*, croton oil mixed with olive oil, and enclosed them in a glass capsule, rendering everything aseptic. This was introduced under the skin of an animal and the wound kept as clean as possible, and when it had healed, the capsule was broken, and suppuration found to take place without the presence of these organisms. Other observers, however, take a diametrically opposite view, and the question must be left *sub judice*. He next showed an illustration of the tetanus microbe. For a number of years this disease was looked upon as non-specific. It was only comparatively recently one could say definitely what was the causal agent. It was discovered that this germ lived in garden mould, and tetanus was produced by inoculation with such mould. It was very peculiar in its method of living. In the first place it was what was known as an anærobic germ—*i.e.*, one which grows better without free oxygen—and preferred an atmosphere of hydrogen. Another thing was, that it grew locally in the body. It was not to be found in the blood or lymph, but associated with other organisms in a wound. It was customary to consider tetanus as of two kinds. It would be described as heresy, he was afraid, if he was to say that there was no such thing as idiopathic tetanus; there might be a wound on a mucous membrane. Any wound which would admit the entrance of the germ would account for tetanus. The peculiar swelling at the end of the organism was due to the presence of a spore. The life history was very illustrative of that of germs in general. He pointed to the bacillary form, then to the growth of the spore at one end, characteristic of the "drum-stick" bacillus, next, to the bacillus leaving the

spore, and to the spore being set free and remaining quiescent, with a tenacious hold upon life until access to the animal organism was gained, when fresh bacilli were formed.

The next slide showed a germ which (said the Professor) would interest Mr. Thompson particularly. This was the bacillus anthracis, which laid claim to be the most popular of all organisms among bacteriologists. It was one of the first pathogenic germs isolated, and it was one of the easiest to cultivate, as it grew almost anywhere and anyhow. One thing it insisted upon was a good supply of oxygen. It could live without free oxygen, but it did not live at all well, so that it was an oxygen-loving germ. The form in the lung substance (slide exhibited) was the form it assumed always in the animal body. It was the first stage of its life history. In the animal body it took upon itself a rod-shaped form, and when it multiplied it did so in the simplest manner possible, by cutting itself in two. Here he showed the bacilli in the blood; and in a number of cases they saw two attached to each other, caused simply by one germ dividing into two. This was its only method of reproduction in the animal body. The other phase of its life history was reproduction by spores, but a spore could only form when free oxygen was present, so that blood must be shed for this to take place. If the carcase was not opened then no spores can form, and as these spores can retain their vitality probably for years, it is necessary to prevent their formation, if we wished to prevent subsequent spreading of the disease. An intermediate step in its life history was best illustrated in the pure cultivation. The bacilli, instead of being isolated, were arranged in filaments, end to end, in a beautiful and intricate pattern. As they would observe by the slide, the threads were composed by short segments, each segment being a bacillus. These threads were not to be obtained in the blood, because of the circulation of the latter, and if a filament did happen to form it was soon broken up. In artificial cultivations the bacilli were at rest and could adhere together.

Another slide he showed exhibited the germ of diphtheria, which he brought before them because of the recent convulsion in the medical profession caused by the discovery of the good effects of anti-toxic serum. The same organism caused diphtheria both in human beings and in the lower animals. It was an example of a locally-growing germ, being only found in the superficial strata of a diphtheritic patch; so that,

like the tetanus bacillus, its toxic effects were produced by the ptomaine formed by its growth.

Another slide he showed was interesting because it showed an organism causing croupous pneumonia, particularly in man. The germ was found in the lungs of croupous patients, and, unfortunately, was almost always associated with some other germ. For some time it was thought to be an accidental circumstance that it should have been so found; but now it was pretty generally accepted as the causal agent of croupous pneumonia. A notable point was that it was not only found in croupous, but also in other forms of pneumonia. The bacillus was short, and two of them were generally attached together and surrounded by a clear zone.

His next slide was a specimen of tubercle bacilli situated in the lung substance. The nodule had undergone caseous changes in the centre and the bacilli were arranged in a ring; they simply retreated on the exhaustion of food supplies and invaded fresh tissues.

(Mr. THOMPSON: "Like a fairy ring.")

Professor BRADLEY said they were very similar.

The bacillus of tuberculosis was isolated and cultivated by Koch in 1883, it having defied all methods for a number of years. It is one of the smallest of bacilli, its entire length not exceeding 8μ and rarely attaining 5μ, or roughly $\frac{1}{5000}$ of an inch. Another reason why the full life history could not more easily be worked out was the difficulty experienced in growing it in artificial media. That difficulty had now been, to some extent, overcome. Another slide now shown was prepared from a pure cultivation and showed more of the morphology of the bacillus. There were a number of stained parts and an intervening number of unstained parts, so that it was well said to be a "beaded" organism. Another feature was that it was sometimes bent. It required free oxygen for its growth, and it was to be found not only in the tubercular tissues of the body, but also in some of the excretions and secretions. It is sometimes found in the milk, and this had great bearing upon the spread of tuberculosis. It has also been described as being present in the semen. If this was so it might throw some light upon the somewhat strange circumstance of very young calves having tubercular meningitis, etc. One knew that the tubercle bacillus grew rather slowly and how such a large number of nodules could grow in so short a time, supposing that the calves only get the bacilli after birth, seemed rather wonderful. This point, however, had still to be worked out, and they could say nothing definite as yet.

There were only some one or two cases on record of bacilli found in semen, and these were human. He did not think that the veterinary pathologist has worked on the subject at all, so they must hope for further light at a later date.

He said he need not enter upon the discussion as to whether meat from a tuberculous animal was fit for human consumption, as so much seemed to depend upon the individual case.

The next diagram showed the bacillus of glanders, which closely resembled that of tuberculosis, but grew rather more rapidly, as glanders was a more acute disease. It was found in the local lesions of glanders and farcy, in the nodules on the lung, etc. It did not seem to be distributed throughout the body. They had heard from the President an account of the effect of mallein. This was merely a glycerine extract of the bacillus mallei. To describe very roughly the mode of preparation, he would say that a pure cultivation was made of the bacillus; then glycerine was added, the germs destroyed, and the whole thing filtered, the glycerine dissolving the ptomaine. Its diagnostic properties were invaluable. Tuberculin was a similar body, but its diagnostic properties were, probably, not quite so good. To suppose that tuberculin was a therapeutic agent, he added, was to fall into an error; its therapeutic value was probably *nil.*

Another slide exhibited was of actinomyces, which produced a common and important disease in cattle, &c. It had been playing hide and seek for a number of years with bacteriologists who wished to classify it. One had been sure it was a fungus, but to correctly and definitely classify it once and for all had been another matter. Showing a section of the liver of a human subject, he said the organism was seen in a number of distinct filaments. Transferred to artificial media they grew as filaments for some time, but when their food supply became deficient they developed into clubs. In the club-shaped condition spores were probably formed and lay dormant until a suitable medium enabled them to again develop and form filaments. It was a matter of speculation how the organisms were disseminated. The organism had been discovered connected with herbage, and it was more than probable that it got into the mucous membrane through a wound or perhaps through a careous tooth. There was another means of gaining access by inhalation, but there were few authentic cases on record of this. A probable way was by ingestion.

Professor BRADLEY concluded by saying he had endeavoured

to avoid as much as possible placing before his audience doubtful points, and had desired to be as dogmatic as possible.

A MYSTERIOUS HORSE AND CATTLE DISEASE

BY R. STEWART MC DOUGALL, M.A., B.Sc.

"I HAVE had a good many horses affected by apparent confusion of eyesight or enlargement of the pupil, shown by their lifting up their feet as if obstacles were in their way, later on, their gait is staggering, and they start and tremble on any unexpected surprise, as of anyone approaching them. Final stages, loss of sense, uselessness, eat by moving their jaws in a jerky manner, stuffing their mouths full, and grabbing at their food, indigestion, will not drink unless the water is raised to their head, seem to be stiff in the neck at back of head, lose flesh, and die in convulsions."

The letter from which the above is an extract, has reference to an outbreak of disease in California, and concludes with a request for information.

From the symptoms quoted there seems to me to be little doubt but that the horses are suffering from so-called "loco-weed" poisoning, and, in reply to this and similar letters, we propose to give a short historical account of "loco poisoning," adding a few suggestions as to the probable cause.

The term "loco" is well-known in Mexico and the Western parts of the United States. It means "crazy," and is descriptive of the dazed and stupid condition of affected animals. Legend tells us how Mexican women, tired of husband or lover, made a decoction of "loco-weed," and administered it to the unsuspecting victim of whom they wished to be rid. Death followed, generally preceded by insanity. But if we hear of "desperate diseases" we also know of no less "desperate remedies," for in other parts of America, the enormous distention of the abdomen of a horse or a cow (a characteristic in bad attack) was relieved by a "knife thrust or a pistol bullet through its walls," and an exit being thus made for the accumulated gas the animal was assured of a "complete recovery."

The term "loco-weed," while perhaps applied most frequently to "*Astragalus mollissimus*," includes many species of the astragalus genus, and also some allied genera, *e.g.*, *oxytropis Lamberti*. The astragaleæ is a tribe of leguminous plants, and the genus astragalus contains a very great number of species. In Britain there are three; *A. hypoglottis*,

purple-milk Vetch, *A. alpinus*, and *A. glycophyllus*, sweet-milk Vetch, so called from the old notion that cows fed on it gave an increased quantity of milk. Another name of this last species is liquorice vetch, and we have often seen boys chewing the long roots for the sweet juice they contain. None of these three species have had a bad reputation, indeed Glycophyllus is said to make very good hay. The species of Astragalus in North America that I can find any record of as associated with "loco poisoning" are *A. mollissimus*, *A. bigelovii*, *A. oxyphysus*, *A. cratolariæ*, *A. menyiesii*, *A. dong-lasii* (these last four from California). There are a number of other species, undetermined however, blamed for damage, *e.g.*, I have just heard of cases in Cyprus and in Australia, but the species was not mentioned.

Early in the eighties (about 1882, or so) a Dr. Isaac Ott, in America, as a result of some experiments to determine the physiological properties of *Astragalus mollissimus*, one of the "crazy weeds," tabulates the action of the plant as follows:—

1. It decreases the irritability of the motor nerve.
2. Greatly affects the sensory ganglia of the central nervous system, preventing them from readily receiving impressions.
3. Has a special tetanic action.
4. Kills mainly by arrest of heart.
5. Increases the salivary secretion.
6. Has a stupefying action on the brain.
7. Reduces the cardiac force and frequency.
8. Temporarily increases arterial tension, but finally decreases it.
9. Greatly dilates the pupils.

In spite of this very definite statement, however, later investigations would seem to prove that the plants accused really possess no toxic properties.

About the year 1880, so great were the complaints in Kansas, U.S., as to the amount of harm done to horses and cattle pasturing in districts there where the plant (*A. mollissimus*) was extremely common, that the Legislature took up the matter and adopted measures for the rooting out of the plant from the State. A law was passed which enacted that any person digging up not less than three inches below the surface of the ground, any loco or poison weed during the months of May, June, and July, should receive a premium of 1½ cents. for each pound of the weed dug up, the weed to be weighed in the dry state and not in the green. Up to 1887, over 200,000 dollars had been paid in connection with the law. During this time Professor L. E. Sayre visited many of the

cattle ranches in Kansas State, collecting information. His results are recorded in one of the American pharmaceutical journals. Chemical analysis and examination revealed no poisonous principle in the plant. Finding that decoctions had no harmful effect on the lower animals, such as frogs, cats, and dogs, and convinced that there were no toxic properties, he experimented on himself. Beginning with a dose of 15 minims of an alcoholic preparation, taking every three hours a teaspoonful, he increased it by degrees to a tablespoonful, and was aware of no bad effects. Similar results attended experiments made by Dr. Kennedy in 1888, and communicated to the *Pharmaceutical Record*. Very large quantities of decoctions from the loco-weed were administered to fasting dogs and no harm resulted. Later still, Professor Mayo, of the Experimental Station, Manhattan, as a result of experiments made on himself, followed on the same side. This body of evidence almost of necessity puts the non-toxic properties of loco-weed beyond dispute.

In conclusion, I might summarise the opinions put forward at various times to account for the loco disease, adding a note as to the likelihood of correctness in each case.

a. The presence of a toxic property of the nature of a narcotic. Animals are said to eat the loco weeds greedily, and the habit has been compared to the opium or alcoholic habit of man. I have already pointed out that this view receives no support from chemical examination or physiological experiment.

b. A fungus parasite of the nature of Ergot (*Claviceps purpurea*). This has been suggested as a possible cause of loco disease on the ground that the attack does not appear in every season. The Ergot theory may be put out of court, as if such vegetable parasite had been present it must long ere this have been demonstrated.

c. Some animal parasite. Here again this explanation may be put out of court, for although in the earlier stages of inquiry there was no efficient survey by skilled veterinarians, there are now complete records of *post-mortem* examinations with no mention of a parasite.

d. The disease is the result of mal-nutrition or mal-assimilation. Here it seems to me the best explanation is to be found. The animals eat large quantities of the food and greedily, but in some way or other, perhaps by ferment action, there are changes which prevent proper assimilation, and lead to emaciation and death. This is the view championed by Dr. Mayo, who suggests that if the loco weeds do contain the

nutritious material characteristic of other leguminous plants, perhaps it is not in a form in which it can be assimilated by the animal. The fits of delirium he accounts for by the possible formation of "clots or thrombi in the blood-vessels of the brain, as there is a well-known tendency to their formation during wasting and debilitating diseases."

(*To be continued.*)

ALBUMINURIA IN CATTLE.

BY E. WALLIS HOARE, F.R.C.V.S., CORK.

THE article on the above subject, by Mr. Curbishley, which appeared in the VETERINARY JOURNAL of April, has induced me to make a few remarks thereon.

In the first place, the presence of albumin in the urine does not, by any means, infer that this condition is to be attributed to Bright's disease in every instance. According to Quain's "Dictionary of Medicine," albuminuria is a condition characterised by the presence of albumin in the urine. It has been said to occur in consequence of various conditions, *e.g.*, changes in the blood, changes in the circulation, changes in the kidney. The condition is divided for the purpose of distinction into two kinds.

(1.) *False albuminuria*, in which some other albuminous body than serum-albumin is present.

(2.) *True albuminuria*, in which serum-albumin, frequently accompanied by globulin, appears in the urine, and in which there is always some change either in the renal circulation or in the structure of the kidney itself.

On the other hand, in *false* albuminuria, the albumin passes out through the kidney without there being any alteration either in the circulation or structure of the latter.

True albuminuria, when not depending on structural changes in the kidney, is believed by authorities to be due to increased pressure in the renal veins, and this belief has been verified by experiments. As factors in the production of this condition may be mentioned venous congestion, when the onward flow of venous blood is obstructed by the pressure of a tumour, or of the pregnant uterus upon the renal veins, or the vena cava, by disease of the liver causing obstruction to the vena cava. Other causes might be included, but it will suffice to state that albuminuria may be also present in lesions of the nervous system, in which cases the condition may be attributed rather to changes which these produce in the circulation, than to any direct action

of the nerves upon the renal tissues. Having studied these facts, it now remains for us to compare the clinical history of Bright's disease of the kidneys in any of its forms, and occurring either in human beings or in horses, with that of milk fever in cows, and seek for any points of resemblance. As regards horses, I fail to see the slightest points of similarity in the clinical history of these two affections. The crucial diagnostic test of the pathological condition of Bright's disease, either in the acute or chronic forms in these animals, is by a chemical and microscopical examination of the urine.

Symptoms alone will not assist us, as all varieties of peculiar postures may be assumed by such patients, the quantity of urine secreted cannot be accepted as a reliable guide, and the presence of albumin in the urine would not warrant us in giving a definite diagnosis. On consulting works in human medicine, I find that albuminuria and general dropsy occurring in pregnancy depend in a certain proportion of cases on Bright's disease, but in many of these cases changes in the kidney are very slight or entirely absent (see Flint's "Practice of Medicine.") In the acute inflammatory form of Bright's disease, suppression of urine may occur, followed by coma or convulsions leading to a fatal result.

But in the clinical history of milk-fever I have never observed suppression of urine; the bladder is usually distended, and after withdrawing the urine with the catheter, the secretion goes on in the usual manner. Again, the quick manner in which many cases of milk-fever recover, certainly does not point to the existence of a condition similar to that of Bright's disease; when cases recover there are no evidences of any renal disorder.

The treatment with chloral hydrate, which has proved so successful in many hands, certainly would not be considered appropriate, nor could it prove of benefit if the affection depended on Bright's disease. The chronic forms of Bright's disease may be excluded altogether from the comparison. That albumin is found to be present in the urine in many cases of milk fever is an interesting fact, but the probability is that the cause of its presence must be attributed to the nervous phenomena which characterise this disease, rather than to any structural changes in the kidney.

It would prove interesting and useful if the urine of a large number of cows, both before and after calving, were examined for the presence of albumin, because if it were only found to be present in those which afterwards developed milk fever, it

would prove valuable in the way of early expectant treatment.

The only disease in human beings which bears any sort of resemblance to milk fever in cows, is that termed eclampsia. This condition is regarded as assuming two forms, viz., when occurring in asthenic and in plethoric patients.

In the plethoric patient, the affection commonly assumes an apoplectic character from the first, setting in by a violent convulsion, immediately after which the patient falls into a comatose state, the convulsions recurring at frequent but irregular intervals. In favourable cases the convulsions cease, and consciousness is slowly regained. In other cases the coma may become more profound, the pulse laboured, respiration embarrassed, extremities cold, and death occurs after a violent convulsion. This affection may occur at any time of pregnancy, as well as within the puerpural period, but is more frequent during the latter months of pregnancy. Innumerable theories have been advanced as to the cause of this affection, just as in the case of milk fever. Some believe that it is the result of uræmic blood-poisoning, probably consequent to nephritis, acute or chronic, as the convulsions are frequently associated with dropsy, albuminuria, and diminished excretion of urea. Recently, however, a theory known as the "Traube-Rosenstein" ascribes the cause to cerebral anæmia consequent on serous effusion disturbing the cerebral circulation, probably resulting from increased arterial tension during pregnancy.

This theory gains weight by the fact that eclampsia may occur irrespectively of any renal disease, and without the existence of albuminuria. One portion of the treatment recommended is to administer nerve sedatives, such as bromide of potassium. Certainly, there are some points of resemblance between the two diseases, but the dropsy, œdema of upper extremities, face, etc., is not found in milk fever. The readiness with which some cases of milk fever yield to the treatment with chloral hydrate, and the total failure of this drug in others, would lead one to suppose that the pathology of the disease was not always constant. The manner in which an hypnotic, such as chloral when administered to an animal in a comatose condition, such as in the secondary stage of milk fever, will bring back a return to consciousness, is one of those mysteries which the science of therapeutics has yet to unravel. That it does so, we have ample proof in many cases; to explain it is a different matter. It is easy to make the statement that chloral has the power of dilating the cerebral vessels, which in this disease are

constricted, so as to produce anæmia of the organ. But what proof have we of this assertion? It is simply arranging a theory to fit in with a fact. We are not yet aware of the precise action of chloral in the healthy brain. We have not as yet discovered the pathology of milk fever, so any assertions dogmatically made as to the manner in which the disease is to be treated on rational lines, must be ascribed to the conceit which springs from human ignorance.

Editorial.

THE ELECTION OF EXAMINERS.

THE new Board of Examiners has now been elected, and, on the whole, the selection is one that should command the confidence of the profession and of the public. There are two matters, however, which might have been more satisfactorily arranged, and the first is, the non-election of an Irish representative. I hold this to be a grievous error, and one that will form a very strong and plausible argument in favour of a Charter for the proposed College in Dublin, a Charter which, I believe, is to be discussed in the House of Commons very shortly. It is lamentable to think that out of the numerous veterinarians in Ireland, many of them men of high standing, not one was deemed sufficiently able to hold the position of Examiner. But matters seemed to be otherwise arranged in London previous to the day of election, and it was remarked by some of the members from a distance that they might as well have stayed at home.

A letter appears in the *Record* of 20th inst., reproduced from the *Irish Daily Independent*, signed "An Irish Practitioner," bitterly complaining against this injustice to the Irish Candidates and to the profession in Ireland. The Editor of the *Record* endeavours to dispose of the complaint in, to say the least of it, a manner ill-calculated to soothe the irritation of the "Irish Practitioner." He replies to the writer in the following terms: "An accusation of this kind, if really made by a member of the profession, is as cowardly as untrue. Possibly we have mistaken the writer's spirit. His letter may have been dictated, not by malevolence, but by ignorance." This style of reply seems to me to be more in the way of abuse than of sound reasoning. Can the Editor of the *Record* say that the question of nationality has not played a most important part in the history of the pro-

fession? If he were to trouble himself to look back, he would find that for about 40 years the profession was divided, because in 1844 Professor Dick considered that his students did not obtain fair play from the English Board of Examiners, and he had to fall back upon the Highland and Agricultural Society of Scotland to appoint a Board; this Board was composed of representative medical men and veterinary surgeons and conducted the examinations, which embraced views as broad and as highly scientific, according to the science of the day (if, perhaps, lacking in petty matters of details) as those conducted at the present time by the Board of the R.C.V.S. A few years ago some of the Scottish members of the profession complained that Scotland was not fairly represented on the Council and agitated for territorial representation. I had no sympathy with that movement, as I considered that the Scottish schools were fairly well represented. These facts, however, go to prove that nationality is not to be laid on one side by accusations of "narrow ignorance," the "avoirdupois weight of an examiner" and other phrases, from which all sense of delicacy is conspicuous by its absence.

The second point is the non-appointment of a member or members of the profession to the morbid anatomy and pathology table. No one can object to the two gentlemen appointed; they are both of the highest eminence in their special department, but the subjects examined upon at this table are pre-eminently veterinary subjects, and the examiners should be more in touch with veterinary studies and teaching than any member of the medical profession possibly can be. It is all very well for the Editor of the *Record* to state that it is only partially true to say that the College elect "medical men as examiners in that subject." If they are not medical men what are they? Experts, says the Editor. Then we are informed that outside the hospitals and medical schools we should no more find "medical" practitioners fit to examine on pathology than we now find "veterinary practitioners." How does the Editor know that there are no veterinary practitioners fit to examine in pathology? Have they been tried? I think the secret is out, and it is this: that in London there are men who think that even to assume the title of veterinary surgeon unfits one for teaching morbid anatomy and pathology; that the subjects can only be taught in London, and that none but experts can examine up to the standard of that teaching.

I am sorry for those "Fellows" of the profession who, in addition to their arduous professional duties, have for years

been preparing themselves for the position of examiners upon this subject.

Members of the Medical profession cannot be possessed of the particular knowledge necessary for the veterinarian; there are many morbid conditions and pathological processes that they never dream of. Has it ever been known that a medical examiner at this table has asked the student to give the pathology and morbid anatomy of a bone-spavin, a ring-bone, side-bone, or a splint? Doubtless it is essential that a veterinary student should know all about pyelitis, gummata, locomotor ataxia, typhilitis, etc., some of which are never seen and others rarely in the lower animals. But I maintain that to give such subjects the major consideration at an examination, and to ignore the more essential ones, is unfair both to veterinary teaching and veterinary students.

ANOTHER NEW ELEMENT.

STILL they come. After an apparent limit had been reached to the extension of our acquaintance with new forms of matter, as judged by the paucity of new discoveries in that direction for some time back, we have just been startled into expectancy by the discovery of argon, and the excitement in scientific circles has not had time to quiet down before a new cause for raising it has appeared. It has been said that, unlike the sciences usually called "pure," the science of medicine has owed all its greatest discoveries to chance adventures and lucky hits—things discovered while other things, perhaps, of minor importance were being searched for. While, no doubt, this is largely true, it cannot be doubted that "pure science" often makes its "finds" in quite the same way.

In the case before us we have a marked example. Professor Ramsay, whose name has been lately so prominent in connection with Lord Raleigh's in the matter of argon, has, it appears, been experimenting with various substances which give off nitrogen when treated with reagents, in order to see whether this nitrogen may not consist partly of argon.

Among several substances tried was a certain rare mineral found near Arendal, in Norway, in 1878, and named "cleveite"* (after a famous Swedish mineralogist, Cleve), which had for some time been known to give off about two per cent. of nitrogen when treated with warm dilute sulphuric acid. After "sparking" through this gas, as had been done with air when

* Cleveite is essentially a uranate of lead, with salts of other rare metals. Iron and thallium are also present.

argon was discovered, the previously-assumed nitrogen turned out to be nitrogen and argon, and—*something else.* The requirements of space permit us only to remind the reader that for, several years past, chemists and astronomers have been as certain of the existence of certain elements in the sun as of their existence on our globe. Among these, perhaps, the most easily determined by that wonderful instrument of modern research, the spectroscope, is sodium, the cause of the spectral lines D_1 and D_2 in the spectrum of the sun or of a common candle.

In the same yellow part of the solar spectrum, however, has always been noticed another line indicated as D_3 which hitherto has been seen in the spectrum of nothing belonging to our earth.

This hypothetical solar element has since 1868 been known as "helium."

All search for this substance among terrestrial matter having failed, it came to be of interest only to those enquirers whose nearest subjects for dissection are to be found far outside the globe, with which we have to be contented. But now to be short, the *other something* found by Professor Ramsay in cleveite, along with nitrogen and argon, is "helium;" the proof we need scarcely say lies entirely in the fact that, by applying the spectroscope, the line D_3 is seen exactly as it appears in the solar spectrum.

As the first example of a new element being discovered on earth, after first finding it in the sun, this discovery is unique.

As to a possible utilitarian application, say as a drug, we must wait for "developments." It appears something has already been done with argon, but should neither argon nor helium appear during our day in a list of "simples," we shall still feel assured that no real knowledge is worthless.

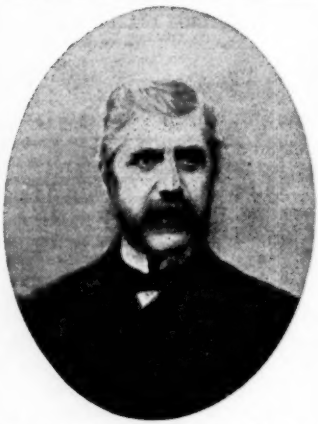
THE LATE MR. THOMAS GREAVES, F.R.C.V.S.

THIS widely-known and highly-respected veterinary surgeon has recently been removed by death, and was laid to rest in Bowdon Churchyard on Saturday, April 20th, 1895, amid many manifestations of the esteem and regard in which he was held.

Mr. Thomas Greaves commenced his long and honourable career in the profession of a veterinary surgeon as a pupil of his cousin, the late Mr. John Greaves, of Altrincham, and after the usual college curriculum was

admitted as a member of the Royal College of Veterinary Surgeons in 1841, and joined his master in partnership. They practised for some years both at Knott Mill, Manchester (where the business was founded as far back as 1829), and at Altrincham. Subsequently they dissolved partnership, and Mr. Thomas Greaves was henceforth identified with the Manchester district, Mr. John Greaves retaining the Altrincham portion of the practice.

He was a true lover of his profession, and an ardent enthusiast. Along with others of his contemporaries, he laboured long and earnestly to raise the status of the veterinary profession, both internally and in the eyes of the public; and to this end spared neither energy, time, nor money.



He became well-known all over the country, and was much sought after as a consultant, especially in troublesome and disputed cases in law. Of a warm and generous nature, he was ever ready to extend a helping hand to a professional brother in a difficulty, and was also a willing helper of the widows and children of deceased members of his profession. These two great objects he helped to place on a satisfactory and permanent basis, by assisting to found the National Veterinary Defence Association, and the National Benevolent Association, of both which societies he was Treasurer up to the time of his death.

His profession recognised his worth and work, and he was elected a Member of the Council of the Royal College of Veterinary Surgeons, a position which he filled for many years.

In 1869-70 he was elected President of the Royal College, the highest position of honour to which a veterinary surgeon can aspire, and which office he filled with

much ability, as also numerous other positions of honour in the profession, his portrait, in oils, being subscribed for by the profession and presented to the Royal College of Veterinary Surgeons, in the Council Chamber of which it now hangs. In 1877 he was elected to the newly-founded degree of Fellowship, and became F.R.C.V.S.

In his large and extensive practice he won an equal position of respect with his varied clients, and held the confidence of the public in many ways; and in this practice, for a considerable number of years, he had the advantage of the great help of Mr. Edwin Faulkner, who was successively his pupil, assistant, and partner, exactly as he was himself with Mr. John Greaves.

For some time his health has been failing and his many friends were thus prepared for his death. At the solemn and impressive funeral service in Bowdon Church, the principal mourners were his two professional partners, Mr. Edwin Faulkner and Mr. Lloyd Jones; Mr. W. J. Ridgway who was for many years their trusted and confidential servant; and the trustees under the will.

Representative veterinary surgeons from all parts were present, as also several distant relatives and friends, and very many letters of sympathy and regret were received from those unable to attend. A touching mark of respect was shown by the employées of the deceased's firm, who lined the approach to the church. There were many beautiful floral wreaths sent by Mr. and Mrs. Ockleston, Miss Greaves, Mr. and Mrs. E. Faulkner, Mr. and Mrs. Lloyd Jones, the employées, &c., &c.

His wide circle of clients and friends will be pleased to know that his name is not to be forgotten, for his partners (Mr. Edwin Faulkner, M.R.C.V.S., and Mr. Lloyd Jones, M.R.C.V.S., the former of whom was associated with him 25 years, and the latter 12), have decided in carrying on the business to retain the familiar title, "Greaves, Faulkner and Jones." A very sad and mournful fact was that Mrs. Greaves was buried at the same time, having died just two hours after her husband. In her case, death was the result of natural causes, accelerated by an accidental fall. Mr. Greaves was in his 78th year, and Mrs. Greaves in her 81st.

THE PROFESSION AND THE BOARD OF AGRICULTURE.

Copy of Letter forwarded with Report to the Board of Agriculture.

6th April, 1895.

SIR,—I am desired by the Council of the Royal College of Veterinary Surgeons, to express their great regret that, in the changes made at the Board of Agriculture, it should have been thought necessary to do away with the Veterinary Department and the office of Director.

The veterinary profession has always felt proud of the work done by veterinarians for the State—from stamping out the cattle plague in 1866, to the practical suppression of pleuro-pneumonia in 1893. They also very highly appreciate the honour of having one of their members as the recognised head of the Department, entrusted with the control of disease amongst live stock.

The Council fear that the changes made by the Board can only be interpreted as marking a diminished estimate of their profession's value by the highest authority, and that they may react unfavourably upon the estimate held by local authorities, and by the general owner of stock.

I enclose copy of a Report from a committee to which the matter was referred by my Council, and I am desired respectfully to beg your most favourable consideration of the facts and arguments there set out.

[Copies of this Report have already been circulated to each Member of Council.]

I am, Sir,
Your most obedient servant,
A. W. HILL, *Secretary.*

To the Right Hon. HERBERT GARDNER, M.P.,
President of the Board of Agriculture.

Report of Committee re *Board of Agriculture.*

YOUR Committee has carefully considered the resolutions forwarded by the Veterinary Societies of the United Kingdom, and recognises that a feeling of general and widespread dissatisfaction exists throughout the profession with the alleged attitude of the Board of Agriculture.

Your Committee has endeavoured to trace the specific causes of this feeling, and is bound to confess that some of the alleged grievances have no foundation and are merely matters of misunderstanding. Some, however, are but too substantial and require immediate efforts for their alleviation. The conditions which are chiefly complained of result from changes made on the retirement of Professor Brown from the Directorship of the Veterinary Department, and will be more clearly understood after a statement of the previous arrangements.

The Board of Agriculture was formed in 1889, and the Veterinary Department of the Privy Council, with other State departments relating to Agriculture became divisions of the new Board. In 1893 these divisions were the Statistical, the Land, and the Veterinary, each having at its head a director. The staff of the Veterinary Department was as under:—

Director	Professor G. T. Brown.
Chief Veterinary Inspector ..	Mr. A. C. Cope.
Assistant Veterinary Inspector	Mr. W. Duguid.
Chief Travelling Inspector ..	Major Tennant.

The duties of the lay and scientific officers were not too rigidly defined, and it is obvious that in directing such complex machinery as that required to enforce the Contagious Diseases (Animals) Act great difficulties must arise in exactly defining the province of each officer. Such diverse subjects required attention as—the carrying out of the multitude of orders referring

to many different diseases, the work of a large staff of veterinary portal inspectors, enquiries into outbreaks of disease, the delimitation of infected areas, the movement of animals by sea, rail and road, and the guidance of local authorities acting sometimes under compulsory and sometimes under permissive enactments.

In attempting the re-organisation of the department, so as to increase its efficiency, the object aimed at has been stated to be "to prevent men being taken away from work to which they were suited and being put to work for which they had not been specially trained." Under Professor Brown's direction the veterinary officers had, during their sixteen years' special training, sometimes to explain to portal inspectors, to local authorities and to other correspondents the best methods of carrying out the rules and regulations of the Board, in addition to their more immediate duties of making pathological investigations, and generally advising the Board as to the principles upon which rules and regulations should be founded. When the sharp differentiation of these duties is practicable, their division between lay and scientific officers is of course desirable, but in many instances such division is impossible, and in practice a layman would only be able to reply at second-hand after consultation with the experts. Practical efficiency would thus suffer from the interference and delay caused by pedantic classification. It has never been suggested that the veterinary staff were overburdened by their correspondence, or that this part of their work could have been better done by men possessed of no scientific knowledge.

On the retirement of Professor Brown in December, 1893, changes were made in the department which have had the effect of depriving the profession of high civil position to which they are entitled by virtue of services rendered to the State. There is now no "Veterinary" department. There is instead an "Animals" department, under which unmeaning title it is difficult to recognise the division of the Board which has hitherto been entrusted with the suppression of disease amongst animals. This re-named department, like the one it superseded, consists partly of executive and partly of scientific officers, but under the change of name an alteration has been effected which entirely reverses their relative positions. Whilst the other divisions of the Board retain a director as head of each, the directorship of the veterinary section, vacant by the retirement of Professor Brown, has not been filled up. Instead, there are two officers—Major Tennant and Mr. Cope—said to be co-equal and to have separate and distinct duties. The equality is a myth; for if on paper the department is split into two halves—one presided over by Mr. Cope and the other by Major Tennant—the layman is made superior to the scientific man by the title given him in the Civil Service Estimates, where he is described as "Principal" of the animals division. Mr. Cope is relegated to a part of the department whilst Major Tennant is provided with an office extending over the whole. The relative positions of the scientific and lay officers are still further accentuated by the salaries. On Professor Brown's retirement Mr. Cope, after his long service, might well have expected promotion to the vacant post and salary. He has not been promoted and has only received an increase of salary to the extent of £100 a year. Major Tennant —the lay officer—with a shorter record of service is promoted to the principalship of the department and given an increase of £400 a year. Under the old arrangement, the two chief scientific officers jointly received £1,800 per annum. Under the new, the two scientific officers receive £1,525, so that the increase of the lay salary is at the expense of the scientific.

Your committee cannot but consider this change as a reflection upon the capacity of the whole body of the profession, and as one calculated to destroy the efficiency of the department, and they energetically protest against a so-called reorganisation which removes from the hands of a professional

expert the control and direction of a department created for, and solely concerned with, the suppression of disease amongst live-stock. The change of name of the department and the change of position of the officers seem to be explainable only upon the supposition that the interests of the stock-owner had been overlooked and the interests of the veterinary profession ignored. Whatever may be the official explanation, your committee cannot but recognise that whereas the form of organisation which had been in force for a period of sixteen years was eminently successful and gave satisfaction to agriculturist and to veterinarian, the new system has caused dissatisfaction and been accompanied by a striking want of success.

Your committee also find that whilst an enormous addition has been made to the staff of lay inspectors, the staff of professional advisers has been reduced. Up to December, 1893, the veterinary officers of the Board comprised a director and two inspectors. Now, when their services were never more needed, the staff is reduced to two inspectors. It is true that these gentlemen are specially qualified, by their long experience and their tried ability, to advise the Board; but such experience is only to be gained in the department. Should illness or retirement deprive the Board of their services there is serious risk that similar experience could not be obtained. This risk becomes more imminent and more dangerous every month, as no one is being trained to take their places. Failure to recognise such plagues as rinderpest, pleuro-pneumonia, and foot-and-mouth disease in the earliest stages has in previous times involved this country in frightful losses, but in a short time the clinical signs and *post-mortem* appearances of a number of diseases will be only known from books and drawings. Swine-fever and pleuro-pneumonia still exist, and thousands of pathological specimens now pass yearly under the eyes of the veterinary officers. All the experience to be gained from these is being lost because no younger man is appointed to the staff and trained to the duties of the office.

Your committee considers that the reduction of the scientific staff is not only unfair to the veterinary profession, but fraught with the most serious dangers to the agriculturists and stock-owners of the kingdom, and it is confirmed in this view by the remarks of the Duke of Richmond at a meeting of the Royal Agricultural Society on February 8th, 1894. His Grace said: "It seemed to him that it was absolutely essential that the veterinary department should continue to be officered in the same manner as in the past. . . He asked whether this was the time when the veterinary department ought to be weakened? On the contrary, he thought it ought to be strengthened."

The committee has inquired into the complaints made in regard to the travelling inspectors. These appointments are not new, and so long as the duties performed by lay inspectors do not include work which can only be efficiently done by properly-trained veterinarians, no disapproval of their action is entertained. The committee find, however, that the travelling inspectors are now entrusted with duties never contemplated at the time of their original appointment. There is a growing tendency at the Board to increase the duties of the travelling inspector, and to decrease the duties of the veterinary inspector. Local enquiries and consultations as to the best methods of combating the spread of disease were formerly entrusted to veterinary officers. These are now undertaken by lay officers, often much to the amusement of local authorities, who are quick to recognise involuntary displays of utter want of knowledge of animals.

The stamping out of pleuro-pneumonia has been, so far, very successful, and it is stated by the late director of the veterinary department, on page 10 of his last yearly report, that the suppression of each outbreak was conducted "by a travelling inspector, *with the aid of the veterinary surgeon of the district.*" The attempted suppression of swine fever is differently conducted,

as described on page 13 of the report. The arrangements are left to the travelling inspector, *unaided by the veterinary surgeon of the district.*

The disadvantages of this change in dealing with disease are obvious. The presence of a veterinarian at the slaughter of animals for pleuro-pneumonia, guarded the public against the consumption of any diseased carcases, and protected the Government from the wasteful extravagance of destroying healthy carcases. The presence of the expert also enabled the State to obtain most valuable statistics as to the existence of other diseases in the slaughtered animals, and supplied the only trustworthy data as to the prevalence of tuberculosis in this country. The enormous destruction of swine, which has taken place in this Kingdom during the last 18 months, has had no such supervision, and it is impossible to say what unnecessary waste of human food has taken place, or what number of diseased carcases have been permitted to go to the butcher. As to the prevalence of tuberculosis or other disease in swine, a great opportunity has been lost, and no information or statistics are available, although it is generally known that tuberculosis is much more frequent in swine than was suspected a few years ago.

During the stamping out of pleuro-pneumonia, the travelling-inspector was entrusted with the enquiry into the origin and possible spread of each outbreak. In the attempted suppression of swine-fever, he is left entirely to his own devices, not only in tracing out the origin and spread of disease, but in determining whether infected herds should be slaughtered or isolated, or partly slaughtered and partly isolated. This extension of the duties of laymen to such purely technical work as the investigation of pathological problems, or to the very difficult duty of deciding what morbid conditions should justify slaughter, or where isolation should be adopted, or to the important question of selecting what carcases should be buried, and what sold as human food, appears to your committee to be altogether indefensible, and in positive antagonism to the excuse offered for the reorganization of the veterinary department. The extension of the duties of the lay inspectors "to work for which they had not been specially trained," and the removal of the veterinary surgeons "from work to which they were suited," is one cause of the extremely slow progress made in arresting the spread of swine-fever, and is a departure from the older and sounder practice under which more than one contagious disease was stamped out. It is a change detrimental to the stock-owner and to the taxpayer, and one which has not added to the efficiency of the Board of Agriculture.

Your committee advises that the Council take steps to bring these grievances to the notice of the President of the Board of Agriculture, and it suggests that a copy of this report should be sent to every Member of Parliament.

BOARD OF AGRICULTURE,
4, WHITEHALL PLACE,
LONDON, S.W.,
April 19th, 1895.

No. 1058/1895.

SIR,—I am directed by the Board of Agriculture to inform you that they have under their consideration your letter of the 6th inst., together with the copy Report enclosed therewith.

With regard to the salaries and duties assigned to individual officers of the Department, I am to say that questions of the kind necessarily involve personal considerations of great delicacy and difficulty, and the Board feel that it would not be for the public advantage that they should do more than refer in a very general manner to the views expressed in the Report.

The Board desire me to observe, however, that it had for some time past been foreseen that, on the retirement of Professor Brown from permanent duty

at his office, a re arrangement of business must take place. On the one hand recent legislation has largely increased the executive work of the Board, in regard to which it has always been the policy of the Board to look for assistance to local veterinary practitioners as much as possible, and to avoid any unnecessary concentration of professional work in official hands. On the other hand, the great advances made in veterinary science and in methods of pathological research have led the Board to desire that their professional officers should be placed in the best position to take full advantage of those advances and be enabled themselves to carry on those original investigations which have been the basis and foundation of the operations undertaken against disease in the past, but which, so far as the professional officers of the Board are concerned, have in recent years been much interrupted by the pressure of duties of a non-professional character.

It is not probable that the special qualities necessary for the direction of the work now to be done under these two heads will often be found combined in any one individual, and, from the experience which the Board have had of the working of the new organisation during the past fifteen months, the Board are satisfied that the arrangement by which the scientific and administrative duties are assigned respectively to the professional and non-professional officers best qualified to perform them, and subject of course to the general control of the Board themselves, is a desirable one in the public interest.

With regard to the scientific work, I am to say that it is the intention of the Board to foster and encourage investigation by every means in their power, utilising, where necessary, the services of non-official members of the profession, as they have recently been glad to do in connection with the committee of professional experts now engaged in the investigation of certain questions connected with swine fever. With regard to the executive work, the Board will continue to avail themselves as much as possible of the assistance of local veterinary practitioners in the discharge of duties requiring veterinary knowledge for their proper performance.

The Board trust that your Council will see from the foregoing remarks that it is incorrect to measure their appreciation of the services of the veterinary profession merely by reference to the number and aggregate salaries of the officers permanently attached to the central office. If the inferences drawn by the Committee from the arrangements made in 1893 were correct, it would be to the Board a matter of the greatest possible regret, but this is certainly not the case. The Board most cordially and fully recognise the great benefits which stockowners and the public generally have derived from the researches and work of veterinarians and they are satisfied that those benefits will not in any way be lessened, but that both private and official veterinarians will be in a position and be encouraged to extend their work and researches, under the arrangements now in force.

I am, Sir, your obedient servant,

ARTHUR W. HILL, Esq., *Secretary*, T. H. ELLIOTT, *Secretary*.

Royal College of Veterinary Surgeons, 10, Red Lion Square, W.C.

A NEW TRACHEOTOME.

WE append a plate of a tracheotome introduced by Professor W. Owen

Williams, and found by him to be very serviceable. The gauge can be easily

regulated to suit any size of tube. There is no danger of losing the portion excised, nor can the operator insert the instrument too far, and perhaps catch the opposite side of the trachea.

CONTAGIOUS DISEASES ANIMALS ACT, 1894.

England, Scotland, and Wales.

Abstract from the Summary of Returns for the two weeks ending March 30th, 1895.

Pleuro-Pneumonia.	Swine Fever.	Anthrax.	Glanders (including Farcy).	Rabies.	Foot-and-Mouth Disease.
None	*Slaughtered* Diseased 2461 Died ... 391 Suspected 13 2865	Fresh Outbreaks 24 Animals Attacked 31	Number of Cases ... 45 45	Killed and Died ... 24 24	None

For the week ending April 6th, 1895.

Pleuro-Pneumonia.	Swine Fever.	Anthrax.	Glanders (including Farcy).	Rabies.	Foot-and-Mouth Disease.
None	*Slaughtered* Diseased 1242 Died ... 212 Suspected 18 1472	Fresh Outbreaks 9 Animals Attacked 95	Fresh Outbreaks 17 Animals Attacked 29	Killed or Died 19	None

Ireland.

Abstract from the Summary of Returns for the two weeks ending March 30th, 1895.

Pleuro-Pneumonia.	Swine Fever.	Anthrax.	Glanders (including Farcy).	Rabies.	Foot-and Mouth Disease.
None	*Slaughtered* Diseased 336 Died ... 60 Suspected 136 532	None	Cases ... 2 2	Killed and Died ... 39 39	None

For the week ending April 6th, 1895.

Pleuro-Pneumonia.	Swine Fever.	Anthrax.	Glanders (including Farcy).	Rabies.	Foot-and Mouth Disease.
None	*Slaughtered* Diseased 106 Died ... 40 Suspected 56 202	None	None	Killed and Died ... 7	None

Veterinary Department, Privy Council Office, Dublin Castle.

Army Veterinary Department.

At the Levée held on the 3rd inst., Veterinary-Colonel J. D. Lambert, C.B., Director-General, Army Veterinary Department, attended and presented the following officers:—Veterinary-Lieutenant-Colonel Walters, C.B., C. Phillips, Veterinary-Major J. Burton, Veterinary-Captain L. J. Blenkinsop, and Veterinary-Lieutenants G. K. Walker, and E. P. J. Barry.

Veterinary-Lieutenant E. Wilkinson embarked for India on the 11th inst., having been permitted to exchange with Veterinary-Lieutenant H. Wilkinson, who proceeded to South Africa in his place.

The following officers arrived from India on the 28th ult., and have been granted leave of absence to 30th April:—

Veterinary-Lieutenant F. W. Hunt joined at Aldershot for duty on the 1st instant.

Obituary.

Thos. H. Jowett, Bradford,	graduated	December, 1894.
H. J. Goodall, Melton Mowbray	„	April, 1862.
Henry Pears, Longton, Carlisle	„	August, 1858, Fellow, 1879.
Thos. Greaves, Manchester,	„	June, 1841, „ February, 1877.
G. A. Drewe, Alington, Berks	„	May, 1857.

Reviews.

Les Exercises de Chirurgie Hippique. Par P. J. Cadiot. (Paris: Asselin et Houzeau.)

In this little book, consisting of some 112 pages, M. Cadiot has set forth, in clear and concise language, the methods of surgical operations performed at the Veterinary School at Alfort. The writer makes no pretensions to literary excellence, and the style may almost be called "telegraphic," but this, we feel sure, will not be looked upon as a drawback, but rather as an advantage, as there is a total absence of "padding," and every word carries its full significance.

The first division of the work is devoted to various methods of casting and securing the horse. Following this is a section devoted to general operations, such as bleeding, production of anæsthesia, setons, ligature of vessels, sutures, and firing. One regrets to find that only one method of producing anæsthesia is given, and that one which is rarely, if ever, adopted in this country, viz., by the intravenous injection of chloral.

The chapter on firing will be found very useful, particularly as it is accompanied by an illustration of the principal regions operated upon, and the different method employed in each.

The section headed—Neck—Thorax—Abdomen, is naturally the most extensive and important in the whole book, no less than twenty-one operations being described, among which we may note tracheotomy, arytenoidectomy, œsophagotomy, thoracentesis, paracentesis, enterotomy, catheterism of the urethra of the horse, castration, operation on the cryptorchid, amputation of the penis, and ovariotomy.

The second section of special operations includes those of the head, which are as follows:—Examination of the eye, (1) by the re-action of the pupil to light; and (2) by the ophthalmoscope. Puncture of the cornea; operation for cataract; removal of the eye; ligature of Steno's duct, trephining the frontal and maxillary sinuses; removal of the molars after trephining; and amputation of the ear. We observe that in trephining the air sinuses, the author directs that a triangular flap of skin be raised; this will probably be

objected to by some practitioners as the flap is liable to irritation during the subsequent dressings; the entire removal of a circular piece of skin being found better in practice.

The tail next comes in for its share of notice, two operations being described, the more important of which is amputation.

In dealing with the limbs, the author describes the tenotonices at some length. Four methods of performing neurotomy are also given, viz., the low and high, and the more rare median and sciatic operations.

The last portion of the book consists of descriptions of operations on the foot, including three for sandcrack.

The book is illustrated by 56 figures, which add very considerably to its practical value, and we feel sure that it will be welcomed by practitioner and student alike, as a handy book of reference.

Proceedings of the Royal College of Veterinary Surgeons and Veterinary Medical Societies, etc.

ROYAL COLLEGE OF VETERINARY SURGEONS.

A QUARTERLY meeting of the Council of this College was held at the College Building, 10, Red Lion Square, Bloomsbury, on Wednesday afternoon, the 3rd instant. Mr. W. Hunting, the president, occupied the chair, and the other members present were: Mr. F. W. Wragg, ex-president, Sir F. FitzWygram, Bart., M.P., Professors J. McCall, J. McFadyean, W. A. Edgar, W. Williams, W. O. Williams, J. Penberthy, Messrs. J. E. Peele, W. J. Mulvey, C. Hartley, J. A. W. Dollar, J. Abson, H. Kidd, J. F. Simpson, J.P., J. Fraser, R. C. Trigger, A. W. Mason, A. Wheatley, E. Faulkner, T. D. Lambert, A. Lawson, G. Elphick, H. Thompson, W. Hunter, and Professor Shave.

The Minutes.

The SECRETARY (Mr. A. W. Hill), having read the minutes of the preceding meeting of the Council,

Mr. J. F. SIMPSON called attention to the fact that it did not appear on the minutes that the report of the Examination Committee which *inter alia* requested the examiners in biology at the forthcoming examination to regard zoology as a new subject, was adopted, or at all events this particular part of the report became a resolution of the Council.

The minutes having been amended so as to express this, they were confirmed.

Absentee.

The SECRETARY read a letter from Mr. Nisbet stating his inability to attend.

Presentations to the Library.

The SECRETARY announced the receipt of contributions to the library including publications of the Pharmaceutical Society, of the Royal Agricultural Society, Professor Simmond's Autobiography, and a work in Hindustanee on "Bovine Pathology." He stated that, by order of the President he had procured a copy of the blue book containing the report of the Departmental Committee of the Home Office, which inquired into questions relating to the London cab trade.

The CHAIRMAN: That was the committee before whom Professor Penberthy represented us and gave evidence.

On the motion of Mr. WRAGG, seconded by Mr. FAULKNER, the secretary was directed to thank the donors for the gifts they had made to the College Library.

Re *Street Accidents.—Fees to Veterinary Surgeons.*

The SECRETARY read the subjoined letter:—

"Whitehall, 2nd April, 1895.

"SIR,

"With reference to your letter of the 12th ultimo respecting the amount of the fee paid by the Metropolitan police to veterinary surgeons for examining horses apparently fatally injured in the streets, I am directed by the Secretary of State to acquaint you, for the information of the Council of the Royal College of Veterinary Surgeons, that having regard to the fact that previous to 1893, 10s. 6d. was the amount of the fee paid to veterinary surgeons for the duties above specified, and that this is the amount paid by the City of London police, the Secretary of State does not feel himself justified in continuing the payment of a fee of 21s. and has accordingly given directions that for the future 10s. 6d. shall be the amount of the fee to be paid by the Metropolitan police for the service in question.—I am, sir, your obedient servant,

HENRY CUNYNGHAME."

Secretary,
Royal College of Veterinary Surgeons,
10, Red Lion Square, W.C.

Mr. MULVEY: We have been paid a fee of a guinea in these cases for two years and now it is to be reduced. If the veterinary profession are of my way of thinking, they would refuse to act in such cases.

Professor PENBERTHY: Can we take any action in the matter?

Mr. FAULKNER: We can refuse to attend if we think fit.

The Home Secretary's letter was received and ordered to be entered on the minutes.

A Question of Identity.

An application was received from a Mr. Alexander Hamilton requesting to be placed on the Register of veterinary surgeons. He had the certificate of the Highland and Agricultural Society, and now resided at Dunedin, New Zealand.

Prof. W. WILLIAMS said that he remembered Mr. Alexander Hamilton passing as a veterinary surgeon in Edinburgh in 1861, but whether the applicant was the same man or not he could not say.

The CHAIRMAN suggested that they should have a statutory declaration by somebody that the applicant was the same man.

This suggestion was adopted.

Appointment of Examiners.

The Council then proceeded to elect examiners, the following gentlemen being chosen:—

CLASS A.

Anatomy—W. H. Bloye and R. Butler.
Chemistry—J. M. H. Munro and H. Somerville.
Biology—W. B. Walters and J. R. Green.

CLASS B.

Anatomy—G. Fleming and W. F. Peacock.
Physiology—F. Smith and J. B. Haycraft.
Stable Management—R. Moore and T. B. Goodall.

CLASS C.

Pathology—G. Sims Woodhead and S. Delepine.
Materia Medica—F. Dun and J. R. Cox.
Hygiene—J. B. Wolstenholme and J. Clark.

CLASS D.

Veterinary Medicine—W. Duguid and J. Malcolm.
Veterinary Surgery—H. Olver and W. Woods.

FELLOWSHIP EXAMINERS.

Veterinary Medicine and Surgery—Professor Macqueen (unopposed).
Veterinary Hygiene and Sanitary Science—Dr. G. Fleming.
Pathology and Bacteriology—Mr. W. Duguid.

On the motion of Professor J. MCFADYEAN, seconded by Professor PENBERTHY, a resolution was adopted requesting Messrs. Malcolm and Cox to officiate as examiners, under the old system, in "Diseases of the Horse, etc."; Messrs. Dun and Duguid in "Diseases of Domesticated Animals other than the Horse, etc."; Messrs. Olver and Clark in "Practical Cattle"; and Messrs. Woods and Wolstenholme in "Practical Horse."

Finance.

Mr. LAWSON moved, and Professor MCCALL seconded, the adoption of the report of the Finance Committee, according to which liabilities had to be met amounting in the aggregate to £383 8s. After payment of these liabilities there remained a balance in hand of £340 os. 8d. The committee recommended that the treasurer be authorised to draw cheques for examination expenses amounting to £1,200.

The motion was adopted.

The Registration Committee.

Mr. SIMPSON presented the report of this committee. He stated that the committee met on the 6th ultimo and again on the 21st ultimo, and had before them a large number of cases of various reported offences. The solicitor thought it advisable that he (Mr. Simpson) should read that part of the report referring to a charge of unprofessional conduct on the part of a F.R.C.V.S. The committee recommended that the name of the offender be removed from the roll, but that an interval of two months should elapse before this was done, so that he might (as he intended doing) appeal to the Privy Council against the committee's decision. Mr. Simpson concluded by moving the adoption of the committee's recommendation.

Mr. MULVEY seconded the motion, which was carried unanimously.

Mr. SIMPSON further reported that the committee had had before them Mr. Edward Coe, who had been convicted of numerous and various offences, and had undergone terms of imprisonment. They recommended that his name, too, should be struck off the register. Mr. Simpson moved the adoption of this recommendation.

Mr. MULVEY seconded the motion, which was carried *nem. con.*

The rest of the report was similarly adopted, and prosecutions under the seal of the College were ordered to be instituted against different persons for various offences under the Veterinary Surgeons Act.

The Examination Committee.

Mr. MULVEY moved the adoption of this committee's report, which was as follows:—"Your committee, after very careful consideration of the payment of fees to examiners under the four years' system, recommend an altered scale be adopted. Two students to be admitted at a time, and a timekeeper to be appointed for class D (oral). When examining students under the old system, the rate per student to be as before." The committee also recommended that first-class travelling expenses be paid to and fro the place of examination. They further recommended that papier maché models of the eye and brain be obtained, and that the examination in the anatomy (that is class B) be a practical one.

Mr. A. WHEATLEY seconded the motion for the adoption of the report, which was carried unanimously.

The Board of Agriculture and Veterinarians.

The printed report of the special committee relating to the attitude of the Board of Agriculture towards the veterinary profession was then submitted, and copies were directed to be sent to the different veterinary associations, with a view to their distribution among Members of Parliament representing the cities, towns, and districts covered by those societies.

The Board of Agriculture and the Veterinary Profession.

Mr. W. HUNTING, the president, stated that the report (which will be found on p.346) of the special committee which had been appointed to consider the action of the Board of Agriculture in relation to the veterinary profession had been printed, and they had all had time to consider it. He proposed that they should take the report as read, but he should be glad to hear any comments which gentlemen might have to make on the report or to receive any amendments.

Mr. R. C. TRIGGER: Did you (the president) get a telegram I sent you the other day correcting a mis-statement in the last paragraph of the report. Alluding to the "travelling inspector," it is stated, "In the attempted suppression of swine fever he is left entirely to his own devices, not only in tracing out the origin and spread of disease, but in determining whether infected herds should be slaughtered or isolated or partly slaughtered and partly isolated?"

The CHAIRMAN: Yes, I remember the telegram.

Mr. TRIGGER: Well, I find that the travelling inspector has been empowered within the last three weeks or a month to call in the local veterinary and take his advice as to the slaughter of contact animals.

The CHAIRMAN: The paragraph was correct as it stands a month or so ago.

Mr. TRIGGER: Not a month.

The CHAIRMAN: Then six weeks. We are quite aware that the paragraph is not now in accordance with what is done; but the course we have mentioned was pursued for thirteen months. Hence we allude to it.

Mr. TRIGGER: As long as you know the facts I am satisfied.

On the motion of Mr. SIMPSON, seconded by Mr. WRAGG, the report was unanimously adopted.

Mr. MULVEY moved, and Mr. LAWSON seconded, that a copy of the report be sent with a covering letter from the secretary of the College, Mr. Hill.

Professor WILLIAMS said he thought that the covering letter should assume the form of a protest, and be signed by the President of the College as well as the Secretary. He wished the covering letter to convey a strong expression of the opinion of that Council.

The CHAIRMAN: I have taken some little action in these things about the Board of Agriculture, and it occurred to me that if the covering letter was simply signed by the Secretary on behalf of the Council, it would have more weight and influence, perhaps, than it would if my name were appended as well. I do not desire to withhold my name because I am at all nervous in the matter; I think the letter may derive strength from its being only signed officially by the Secretary.

The resolution was adopted unanimously.

The CHAIRMAN suggested that as the different veterinary societies of the kingdom had made strong representations to the Council with regard to the procedure of the Board of Agriculture, it would be well to send each of those associations copies of the report to be forwarded by them to the Members of

Parliament of their respective localities. The only way to move the Board of Agriculture would be to bring pressure to bear by as many Members of Parliament as could be got to voice the protests and wishes of the veterinarians among their constituents.

Mr. LAMBERT said that as President of the National Veterinary Association of Ireland, he would supply each of the Irish members with a copy of the report, and he need hardly say that they might be relied upon in seeing justice done so far as their influence extended.

On the motion of Mr. LAWSON, seconded by Mr. LAMBERT, it was decided that copies of the report should be forwarded to each of the different veterinary societies in Great Britain, and that a sufficient supply should be at the disposal of the seconder for distribution amongst the Irish members.

Dates of the May Examinations.

On the motion of Mr. Mulvey, seconded by Mr. Hunter, it was decided that the written examination should begin in London on Monday, the 13th proximo, and the oral on Tuesday the 14th, the oral in Scotland commencing on Monday, the 20th prox.

Appointment of Auditors.

Mr. WRAGG moved, and Mr. FAULKNER seconded, that Messrs. Warner and Woodger be reappointed auditors for the ensuing year.

This was agreed to.

The scrutiners, too, were elected.

The SECRETARY then read the obituary list.

The Late Mr. Joseph Gamgee.

The CHAIRMAN: Before we adjourn I would suggest that we should send a vote of condolence to the survivors of the late Mr. Joseph Gamgee—say to his daughter in Edinburgh.

Professor W. WILLIAMS moved a resolution expressive of the regret of the Council at the death of Mr. Joseph Gamgee and of condolence with his family in their sad bereavement.

Professor MCCALL seconded the motion, which was carried *nem. con.*; and the Secretary was directed to forward a copy to Miss Gamgee.

The New Register.

Mr. MULVEY directed attention to mistakes which appeared in the new Register laid upon the table. For instance, Professor Williams was described as "deceased."

The SECRETARY blamed the printers for this error and said a letter of apology was due to Professor Williams.

Professor WILLIAMS: No apology is needed. I am very glad to be alive and able to meet you all here.

The CHAIRMAN: Evidently the late Professor Walley has been meant.

Mr. MULVEY thought that the book should not be issued until the mistakes were corrected. By page 93 and 94 of the book he was told what he was unaware of until he saw the register, namely, that their examining board was divided into sections. "Here," added Mr. Mulvey, "it says 'Section for England,' 'Section for Scotland.'"

The CHAIRMAN: Yes, that is a survival.

Professor MCFADYEAN: The book is evidently historical.

The CHAIRMAN: There are 500 mistakes in the book which has had to be rushed out. It has been through various presidents' hands. This year we have had the largest number of alterations to make, and the work of revision proceeded so slowly that I ordered the book to be issued, right or wrong, and regardless of grammar.

Mr. LAWSON: That is the result of rushing a thing.

The CHAIRMAN: There is a Publication Committee and that committee should take the book in hand. One day I noticed that Whitechapel appeared as being situate in Kennington, and a place in Canada was described as being in South America.

A MEMBER: I move that the Publication Committee meet now to revise the work.

Professor MCFADYEAN: Then I beg to resign my position as a member of the committee.

The subject then dropped.

Professor MCCALL moved, and Mr. LAWSON seconded, a vote of thanks to the Chairman. This was carried unanimously, and the meeting then terminated.

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

(*Continued from page* 282.)

DR. DELEPINE said: Mr. President and Gentlemen, I rise to propose the most important toast of the evening, that of the veterinary profession, under rather unfortunate circumstances. First of all the compliment you have paid me in asking me to propose this toast, which is the pleasantest to-night. There is no doubt that it is easier for me to speak of all that is admirable in the veterinary profession than if I had to speak of my own profession, in which I see a good many defects. The two professions are getting closer every day and this is the result of circumstances. We discover every day that these links which connect us are more and more important. The highest aim of the medical man is the prevention of disease. Preventive medicine is by far the highest branch, but we find every day that when we want to prevent disease in man we have to prevent it in the lower animal, because a great deal of diseases are communicable from the lower animals to man. Therefore we have to take advantage of the special knowledge of veterinary surgeons in order to help us to prevent contamination of human beings, and it is a matter of absolute necessity that the two professions should be closely united and, as Mr. Wolstenholme has explained, the joint working of the two professions brings about most satisfactory results. There is no doubt that medical scienee itself has been very much adverse to the work of the veterinary surgeon. Mr. Wolstenholme has specially directed considerable attention to the fact that the medical profession has been a great help to the veterinary profession, but if we look and consider a few of the most important diseases that afflict man, you will find that the veterinary profession has added a considerable amount to our knowledge. Dr. Niven has mentioned tuberculosis as one of those diseases in which the veterinary profession has helped the medical profession considerably. You will know that in 1865, Veelmar, in a most important and absolute manner, demonstrated that tuberculosis was communicable from man to man, from man to animals, and from animal to animal. Chauveau is now sharing the highest scientific honours in France. I need not speak of glanders, anthrax, etc., in which we have worked jointly. It seems to me impossible not to speak of the labour which has been done by your profession otherwise than in terms of the highest admiration, and I feel extremely proud that you should have given me the opportunity of expressing those feelings, though certainly my neighbours have done the same much more worthily and pithily than I can do it. I feel more than I have said.

Mr. HUNTING, President of the Royal College of Veterinary Surgeons, said: Mr. President and Gentlemen, One great advantage I have in replying is that it is purely an impersonal and unofficial reply which I have to make. I cannot

help referring to the relative position of the veterinary and medical professions in the matter of preventive medicine—that we are absolutely indispensable to each other. We have found that in 1865, when this country was groaning under the affliction of the cattle-plague, and when we and we alone directed the nation how to overcome it, we got a temporary thanks for our work, a temporary acknowledgment, and the country got the advantage of our work, and they founded a State Department of Veterinary Medicine. What was the result? Slowly and gradually they have elbowed us out, slowly and gradually they have given our work over to sailors, soldiers, and to clerks and friends of those who have friends in office. The cattle-plague we stamped out, foot-and-mouth disease and pleuro-pneumonia we stamped out, and then the Board of Agriculture say, "This is an easy job, what do we want with these men?" They take on swine fever. Unfortunately they do not know what they are doing. They paid little attention to the veterinary advisers who were left absolutely out in the cold. I say without hesitation the treatment of the veterinary profession by the State is one of the greatest injustices I know of. All I wish is that Mr. Herbert Gardner could have been present, and to have heard these gentlemen speak of us. You in Manchester are favoured altogether. Your medical profession works hand and glove with you, as also your local authority. You have a meat inspector. Here your corporation employs veterinary surgeons. In London they do with as little veterinary assistance as they possibly can, I am sorry to say. The County Council employ a few men, but they have no veterinary advisers. I hope London will think as Manchester thinks. Gentlemen, I thank you.

Mr. MASON, of Leeds: I can only echo the sentiments of the President of the Royal College of Veterinary Surgeons, and thank you most heartily for your hospitality. I endorse every word he says on the topic he has been on, and if we can only press home the arguments which he has given, I am sure that we might do some good to our profession.

Mr. WM. WOODS, of Wigan, said: Mr. President and Gentlemen, I am not very sure whether, in drinking to the success of the veterinary schools, our action of the last few years has contributed very much, or will contribute very much, to the success of the schools. I am afraid we must acknowledge that the addition of a year's study to the college curriculum, and, to my mind, in a far greater degree, the immense leap we have taken in placing the general educational examination of the veterinary student on a level with that of the medical profession, whether that will not considerably militate against the success of some of the schools in the north, at any rate, for the next two or three years, and, speaking of veterinary schools, brings up at once the memory of one of the principals of these schools who has been with us from year to year for many years, viz., Professor Walley, who has been taken from us not very long ago. He was a personal friend of all of us, one whose friendship I valued very highly indeed. A man, perhaps not of the most brilliant parts, but honest, earnest, and painstaking. Nothing seemed too much trouble for him to do; he was an everlasting worker. He deserved success. He added lustre to our profession during his life, and my only hope is that we may gain something from his death. I mean that if by it there comes about a union of those two schools in Edinburgh, that all the profession will be benefited thereby. Of course, I cannot be expected to know anything behind the scenes, or what is going on, but there cannot be as much smoke as there has been without some fire, and it must be that Professor Williams either has been approached, or, at any rate, will be approached, with a view to the amalgamation of those two schools; and I believe that I am voicing the feeling of the profession in making a personal appeal to him not to allow any feeling of resentment to rankle in his breast owing to ill-treatment he may have received in years gone by. That he will, if he can see the practical upshot to

the union, look generously upon it. No one can accuse Professor Williams of want of pluck. A man who dared to defy an endowed school, backed up by the powerful Corporation of Edinburgh, when he thought they ill-treated him, and commence a private school; and I think the practical sympathy of the profession was shown to Professor Williams. I hope these things may make him look more favourably. I will ask you, gentlemen, to drink to the success of the veterinary schools, coupled with it the name of Professor Williams.

Professor WILLIAMS thanked Mr. Woods for the kind manner in which he had associated his name with the veterinary schools, and the members for the enthusiastic manner in which they had drunk it. He endorsed every word which had been spoken by Mr. Hunting, President of the Royal College of Veterinary Surgeons, and thought it important that action should be taken at once to guard the honour of the veterinary profession; but it must be done discreetly, when he felt sure they would obtain what they required. As to the amalgamation of the two schools in Edinburgh, referred to by Mr. Woods, there would be nothing on his part to arrest the movement. He would sacrifice anything to see a great school in Edinburgh. He thanked the members for their kindness.

Mr. W. A. TAYLOR said: Messrs. Vice-President and Gentlemen, I confess to a feeling of great pleasure and honour in having my name associated with the proposition of the toast which has been placed in my hands, and I enter upon the duty with some feelings of trepidation, not because my friendship with the chief officer of this Society has existed for a term exceeding a quarter of a century, but because I have that true sympathy with him, that I feel I cannot say what I would of him in his presence. It seems difficult to extend to a man one's feelings in speech in the presence of himself and others, though they be his well-wishers; nevertheless, when one is called upon to perform a duty, and such a duty as that of President of an Association like ours, it behoves every one of us who knows something of his chief officer, to do his duty to the best of his ability; and I think that in the few words I address to you, I shall be able to claim your leniency in any remarks I may have to offer. The duties of president of an association such as this, sit lightly (and I speak from experience) on no man's shoulders; and however gracefully he may bear the burden of them, the weight is nevertheless there. That any one of us who knows Mr. Dacre, could for a moment doubt his capacity to act in the forthcoming year to the entire satisfaction of every one of the members of this Society, would be an impossibility. He is known amongst us, and not only amongst us as a Society, but throughout the profession, as being a most distinguished practitioner of veterinary medicine and surgery, and I venture to assert that if we one and all emulated, or attempted to emulate, the good example that he has set us, we should be none the worse for following him. I sympathise with him, and those members who are the most punctual in their attendance at the ordinary meetings of our Society. I will also sympathise with him in the position he holds this year. I say those members who are punctual in their attendance, for, gentlemen, you must remember (and I appeal now to those gentlemen whose faces more often grace our festive board than whose presence we have the pleasure of receiving at our business meetings), I ask those gentlemen in particular to remember that the president's duty is to be present at all meetings of the Association during his term of office, and I also venture to assert that it is equally the duty of every member of the Association to be present at those meetings when he can. We may hold meetings, and our President may be here, but if he does not receive that support to which he is entitled, he can only go home at the close of the discussions with a heavy heart. Let us all, I say, follow the bright example of our chief officer, and, during the next 12 months, endeavour by our own individual exertions to assist him in the

duties he has consented to perform for us. I think that every man who has had any experience in the practice of his profession, must have learned something, and we must remember that it falls to the lot of no man, be he the greatest man living, to know everything. Therefore, I urge that one man, though his practice may not have covered many months, may in that short time have come across a case which, possibly, may have puzzled older brains than his. Therefore, although we find that at our meetings when we have down a great gun to expound to us the latest theory of bacteriology, I say that young man, diffident though he may feel, diffident though he may be, he has the power, if he will only exert himself, to add his mite of interest and valuable knowledge for the benefit of older practitioners. Let him not be daunted by the overshadowing presence of men with long titles and great names. They are more to be feared in the abstract than in person, and I feel sure that men who have risen to eminence in the respective departments of medicine and surgery, will be the first to encourage the application, attention, and prosecution of knowledge in the younger members of the profession. I ask you to rally round the chief officer of this Society, and make his duties less onerous and more pleasant during the ensuing 12 months. Gentlemen, I ask you to drink to the health of the President of this Society, Mr. Dacre.

Mr. DACRE said: I am pleased to find that my friend Mr. Taylor did not pour out upon me any great amount of eulogy, but that he referred to this society of which I am the president, and whose good I have sincerely at heart. I have been a member of the society for a considerable time and I do not think anybody can accuse me of doing anything that would be prejudicial to its welfare. I have been now three times president and for some years secretary, so that I have done possibly my share of the work. I should like to see this society in a more flourishing condition than it is, and in my address this evening I intimated the wish to see amongst us the younger practitioners, who are members of our society. If that can be achieved I think that this society will begin a series of good work; if we bring forward subjects at our quarterly meetings that will interest the members, subjects that when they see our circular they will say "Why, I had a case of this sort and I shall be glad to go down and hear what this man with 30 years' experience has to say about the disease, and possibly I may hear something to be of material service." Now although, as I have said before to-night, scientific subjects are good, they are not the most beneficial. The subjects should be of such a practical nature that the younger members could consult with the older members when they were in a fix in the various cases they do meet and must meet when they first commence practice. I think if the work of the society could be directed into that channel, that would be one of the greatest benefits the society could confer upon the profession generally, and I hope at some future time—even in this year of my office I am living in hopes of doing something towards that end, and if I can succeed I shall be satisfied that I have done my duty to the society as your principal officer. I thank you, and Mr. Taylor, my very old friend, for the kind way in which he has spoken of me, I hope this will be the inauguration of better times for the association.

Mr. J. H. CARTER said: Mr. President and Gentlemen, I have great pleasure in proposing the next toast, which I think is one of the most important on the list, and also one which I am sure the members of this association will greet with enthusiasm. We are always pleased to see a goodly array of visitors around our festive board and at all our quarterly meetings. I am especially pleased to see that we have amongst us a number of medical gentlemen, and from the remarks which have been made, it must be patent to us the necessity for a closer alliance with the medical profession. In fact, when we come to consider the great advance which has been made in recent years in the study of human and animal pathology, I think it behoves us to closely ally ourselves

with the medical profession and work hand in hand. At all times, whether at quarterly meetings or annual meetings, I am sure we extend the welcome hand to all visitors. I call upon you, gentlemen, to drink the health of the visitors, coupling with it the names of Mr. Cook and Mr. Butterworth.

Mr. Cook said: Mr. Chairman and Gentlemen, I thank you for coupling my name with the toast of the visitors. I am not altogether a stranger at those meetings; some years ago I had the pleasure of attending them. I was pleased to see a fortnight to-night, at our meeting in Yorkshire, your representative, Mr. Faulkner, as also Professor Williams. I think meetings of this kind are not really patronised well by visitors; I think there ought to be more combination in connection with societies of this kind. I thank you very much for coupling my name with the toast.

Mr. Butterworth said: Mr. President and Gentlemen, I am sure I hardly know why my name should have been coupled with the toast, because I am altogether outside the pale. I am in the law. I certainly have to deal with both branches, viz:—Medical and the Veterinary Professions. At the present time I am busily engaged in the mystery of tuberculosis, and I can assure you that I have gained more respect for, and I feel more deeply indebted to, the veterinary profession than I ever did in my life. I thank you very heartily indeed for your hospitality to-night. I have been very pleased to be amongst you and I trust I may have the pleasure of being with you on some future occasion.

Mr. Darwell said he had great pleasure in proposing the toast of the ladies, which was responded to by Mr. Chorlton (Hon. Secretary.)

LINCOLNSHIRE VETERINARY MEDICAL SOCIETY.

(*Continued from page* 302.)

In what I have said I do not profess to have done more than glanced at so large a subject, but having, perhaps, tried your patience by dwelling so long on a theory with which most of you disagree, I will now go on to the more practical subject of the treatment to be deduced from it. No disease in existence is subject to a greater variety of treatment, each system according to its exponents being attended with greater success than any other, the sedative, the stimulant, the evacuant purgative and the nerve tonic methods, each have their enthusiastic advocates, the sedative being, perhaps, at present, the most popular. I have treated and assisted to heal the disease by various methods, with a total of recoveries of 5 in 13 cases in the North of England, 4 in 11 in Wales, and 18 in 93 cases in my present practice, where we have the disease in its severest possible form. After reading the articles published four or five years ago on the virtues of chloral and the remarkable percentage of recoveries resulting from its use, in some reports nearly 100, I thought, now at any rate I shall be able to establish a reputation for curing a disease which myself and my predecessors in the practice had found almost intractable. But alas! for the vanity of human hopes, I found that whatever might happen in the bracing air of the North, in the Fens where the state of agriculture has a generally sedative influence, my patients when down refused to respond favourably to this method of treatment, and after administering chloral to 6 cases with fatal results, in 5 of them I came to the conclusion that with me the system was a failure.

The basis of the treatment usually adopted is stimulation of the system generally, and the production of purgation. Now, in dealing with the affection I have retained the name of parturient apoplexy because it is one most commonly used, but the condition which exists in the earlier stages, at any rate, is a gradually increasing suspension of the bodily functions, commencing with

the voluntary and non-essential and progressing until, if not checked, it embraces the vital centres. Now, holding as I do that the root of the malady is a chemical poison in the system, and as the majority of our stimulants partake more or less of the same character, there is danger, in administering preparations of alcoholic ammonia, of increasing the morbid material in the system, when the temporary stimulating effect has passed off. Presuming the kidneys to be organs to which we must look for the relief of the morbid condition present in the disease, I have for the last three years confined my treatment to the administration of diuretics with large quantities of fluids, constantly using the catheter, and allowing the patient plenty of fresh air, of course, attending carefully to the usual routine as to position, etc., and combating any tendency to tympanitis that may be present by large doses of sulphite of soda. No purgative medicine is given under any circumstances, as it is quite impossible for any drug of this description to establish its action, and the mechanical effect of dissolving a pound or two of salts in the animal fluids, has reduced the vitality of many a case with a temperature already several degrees below the normal to a point which puts it beyond the hope of recovery. I consider that much harm has been done by the use of what was so popular a few years ago, the wet pack. By means of this agent, a large amount of fluid could be obtained from the animal's system, but as this fluid was little more than clear water, it had no effect on the cause of the disease, and had the great disadvantage of diminishing the action of the kidneys by which it is excreted. The skin should only be sufficiently clothed to keep the surface of the body at its normal temperature. I have found oil of juniper administered in half-ounce doses at intervals of a few hours, the best agent to produce a rapid diuretic action and having at the same time no tainting effect on the carcase should the butcher have to be called in. It is of the greatest importance that the bladder should be kept empty, as an empty bladder is a great stimulus to urinary secretion. When the animal is not quite comatose the mere pressure of the hand in the rectum will cause irritation, but where it is not possible to employ the bladder by this method the catheter must be used, and in cases occurring some miles from home, or when I am not sure when I shall be able to see them again, I insert a flexible catheter into the bladder and leave it attached to animal's tail; in restless cases this is of course soon displaced, but in cases where the coma is complete I have known it to remain *in situ* for more than 24 hours, with an almost constant dropping of urine; in any case no possible harm can result from it.

In reference to this I am of opinion that in those cases which die suddenly without apparent cause, death is most frequently due to a ruptured bladder than to the ruptured blood-vessel in the brain which we give as the explanation to their owners, but are unable to find on *post-mortem*, at any rate I have seen two cases in old cows where this happened. It is of the greatest importance when the kidneys are acting freely to administer plenty of fluids, and when the cases are well developed it is much less risky and more expeditious to use the probang than to trust to the patient's powers of swallowing. No benefit is derived from continually drawing the teats to excite the secretion of milk, as, until the patient is in a fair way to recovery, the less secretion of milk there is the better, and I am decidedly of opinion that the cessation of this secretion, so far from being the cause of the disease, is only one of its most prominent symptoms. There will always be points about each particular case which require the special attention of the practitioner, and a good attendant, who can be relied on to follow directions carefully and use common sense on points which may arise during the absence of the veterinary surgeon, is an invaluable factor in bringing a case to a successful termination. In a country practice where clients will have something tangible for their money, one is bound in attending a case of this description, for, perhaps, two or three days,

to furnish material for the Christmas account in the shape of various other inward and outward applications, but always take care when keeping an eye to the commercial side of practice, not to administer or apply anything from which the patient can derive any harm or the drug merchant any profit.

I do not claim either originality or superiority for my system of treatment, I can only say that it has had the advantage with me of raising my percentage of recoveries from 10 to 30 per cent., and this in a district where the disease is looked upon as next door to incurable. I am firmly of opinion that if, during the period over which veterinary literature extends, no drug had been administered to a case of parturient apoplexy, there would have been a much greater number of recoveries and the disease would have been much less dreaded than it is at present. We naturally look to the pharmacopœia to remedy the ills of our patients, but it behoves us as scientific practitioners in this age of general enlightenment, to treat our cases rationally, and to strive to do all we can to add to the knowledge we already possess, by the exercise of those powers of observation and deduction, without which we become mere machines for carrying out the ideas of others, and leave our profession none the better for having included us amongst its members.

I thank you for the attention with which you have listened to me, and feel that though I must have imposed on your patience, I have at any rate furnished material for discussion. In a company of gentlemen such as we have here to-day, all having a practical acquaintance with the subject of the paper, we cannot fail each of us to leave this meeting enriched by that exchange of ideas and opinions which was the chief object that led to the formation of societies such as our own.

Discussion.

Captain RUSSELL asked if it was Mr. Robinson's theory that the disease was due to chemical poisoning from the changing of the tissues into milk, how he accounted for the disease appearing six weeks before a cow was due to calve?

Mr. ROBINSON said he should not consider a case of that sort to be true parturient apoplexy, but a variety of indigestion.

Captain RUSSELL said that in the case to which he referred there was every symptom of it, and the animal remained paralysed, she could not get up, but at the end of the six weeks she calved, got up and licked her offspring, and did well afterwards. He could not follow Mr. Robinson's pathology; he had studied various treatises which had been written on parturient apoplexy, and had had the honour of being on the committee formed by the National Association to make enquiries into it. His opinion was that the more they considered the subject the less they found they knew about it. He himself received a severe check; he was called to a cow with all the symptoms of dropping after calving. She was not in a state of coma, but was just sensible and had every symptom they wanted, even to the limp tail. He was told that she had calved ten weeks; these sort of cases rather upset the theories that had been put before them. He did not wish to argue with Mr. Robinson as to the pathology of the disease, but he really failed to follow him in thinking it was due to the change of the animal tissues into milk. He had tried the chloral treatment when it first came into practice, but had never saved a cow by it; if he gave chloral to a cow she became comatose and remained so till she died. He thought the essayist was to be congratulated on having taken up this subject, as it was one which would bear any amount of discussion and ought to be fully considered.

Mr. FREER said he had been in practice something like 30 years, and he had come to the conclusion that the disease was due to some kind of poisoning, brought about during the period of parturition, and that indigestion had a great deal to do with it. In 1893, he never had a case, because in that year

a cow had to walk about and work hard to get a living; as a rule the cows when they came down calving in his district, were very fresh. His father's treatment, with which he had been successful, was turpentine. He was no believer in the chloral treatment, as it had never been a success with him. He, however, fully believed that milk fever was a preventible disease, by keeping the animal short of food for a few days before calving, and avoiding stimulating food, such as linseed and cotton cakes, substituting mashes, and giving the animal a powerful dose of purgative medicine. He had seen great benefit follow this line of treatment, and had felt that in many cases an attack of parturient apoplexy had been prevented.

Mr. GOOCH said his father had been in practice about 55 years and was noted for his percentage of recoveries in this disease; the first thing he did was to bleed and then pour down a pint of turpentine in a quart of linseed oil, and nothing else was done. He, himself, had tried this treatment at Stamford, but it was not so successful as in Norfolk; he believed, however, that if turpentine could be got into the digestive tract without passing into the lungs it would be the best remedy that could be applied, and this could be done with the aid of the probang. He quite coincided with the essayist as to the use of the catheter, as it greatly relieved the patient; he also agreed with previous speakers as to the chloral treatment, as he thought when a cow was comatose it simply aided the morbid process. He had, however, given it in violent cases with some degree of success.

Mr. JAMES SMITH said he should like to thank the secretary for coming forward and giving them such an interesting paper. He thought Mr. Robinson was on the right track and that the disease was entirely due to an alteration of the blood pressure. It was a fact that cows which went down before calving presented every symptom of milk fever, and then got up and calved and went on all right. He did not think that the more sudden the effect produced the more likelihood of recovery, as in his experience, the sooner a cow went down after calving, the less prospect there was of her getting up again. He agreed with Mr. Freer that it was a preventible disease and he thought there was no disease more easily prevented. He had charge of the best shorthorn herds in his district and he would guarantee they did not go down with milk fever. He took them off grass, fed them carefully, and gave a mild dose of purgative medicine and let them calve on an empty stomach, and gave them a dose of medicine as soon as they had calved. If this system was carried out they could certainly prevent it. Feeding had much to do with it, as last year he had no cases, whilst the year before he had only two. The chief objection to the essayist's theory was that cows had milk fever before calving; he remembered a case in which a cow had an attack three weeks before she was due to calve. She recovered and, calving at the proper time, went on all right.

Mr. MACKINDER said he had to give a lecture to-night which dealt with the subject of the paper. He held a different theory altogether from that of the essayist; his theory was that it was entirely a nervous disease. Let them look at the symptoms, there was no doubt that the sciatic nerve was affected, and he did not think it could be from blood poisoning. He thought it due to nervous paralysis from two distinct shocks. A cow calved easily and had an udder full of milk, these glands had not been in use for six or seven weeks, and they were suddenly called upon to secrete large quantities of fluid. He thought the principal cause was the shock of the act of parturition, followed by the removal of a large quantity of milk from the udder, thus giving two distinct shocks in a very short space of time. About the time of parturition, also, there was great danger of an attack of indigestion, as the animal would not chew her cud, and at the same time had often a ravenous appetite. He always advised that the milk be taken away gradually. In a fatal case of the

disease the third stomach was always found very hard indeed, and he thought that if they gave plenty of fluids the cow would be less likely to go down. He had seen a cow which went down in a grass field and could not stir; he gave the cow a dose of chlorodyne, and to his surprise she got up and walked half-a-mile, and then went down and passed through all the stages of parturient apoplexy. He was an advocate for giving plenty of treacle, as it would keep the animal from blowing up.

The CHAIRMAN said, personally, he was in favour of much that the essayist had said. He thought they were very much in the dark as to what parturient apoplexy really was.

Mr. KIDD said he agreed with Mr. Robinson as to the cause. He had had a lengthened experience of the disease, and had held different theories, but he had now no doubt that the mammary gland was the seat of origin of the disease. With respect to the chloral treatment, he had been fairly successful with it, but considered that it yielded better results alone than in combination with potassium bromide. He thought that giving purgative medicine had something to do with the non-success of previous speakers, as there was no doubt that to give chloral after a dose of Epsom salts had been administered was to induce a fatal result.

Mr. ROBINSON, in replying, said that in bringing forward this paper his object had been to furnish a subject for discussion, and he was very much obliged to them for the lenient way in which they had dealt with him. In reference to those cases which went down several weeks before calving, he was of opinion that they were not parturient apoplexy at all, as he had seen bullocks with symptoms identical with those of milk fever, arising from acute indigestion. There was no doubt that there was a considerable relation between indigestion and parturient apoplexy; but to say that the disease was pure indigestion was a very feeble explanation of the facts known in connection with it. As men posing to be scientific, they must hold some reasonable theory to account for their method of treatment, as a man who poured drugs down an animal's throat without having an explanation satisfactory to himself of their method of action, occupied an absurd position. He had not said that the sooner a cow had the disease after calving the more likely she was to recover; but what he had said, or meant to have said, was that a case in which the symptoms were developed rapidly, and coma set in without much preliminary excitement, was more likely to recover than one which was rolling about for some hours, getting up and down before becoming comatose, particularly if tympanitis were present, as, in his experience, the last class of cases were invariably fatal.

On the proposition of Mr. GOOCH, seconded by Mr. WESTON, a cordial vote of thanks was passed to the essayist for his paper, and the meeting concluded with a hearty vote of thanks to Mr. Rudkin for his conduct in the chair.

JOHN A. ROBINSON, *Hon. Secretary.*

THE CENTRAL VETERINARY MEDICAL SOCIETY.

(*Continued from page* 296.)

PROFESSOR MACQUEEN: I have no objection personally to a grant being made to this Institute. That is not the object of my opposition. I object to the re-opening of this question on constitutional grounds, and I am surprised that the president of the Royal College of Veterinary Surgeons should be the first to break through the constitution of our society.

Mr. HUNTING: Pardon me, but before you make an observation of that sort, it is as well to have some facts to go upon. I have broken through no rules. I object entirely to any assertions of the kind.

Professor MACQUEEN: If you will allow me to continue I will prove what I say. Mr. Hunting stated that the recommendation was carried by a large majority—

Mr. HUNTING: I said it was carried by a larger number than was present at the Council meeting which rejected it.

Professor MACQUEEN: Well, larger if you will.

Mr. HUNTING: It makes all the difference.

Professor MACQUEEN: On that point I wish to make a remark. I do not deny that there was a larger number for the grant at the Society's meeting than there was against it at the Conncil meeting. But you must remember that the very same meeting which recommended a grant to the British Institute of Preventive Medicine also recommended the Council to vote a certain sum towards our Jubilee Memorial Fund. What is the meaning of Mr. Hunting's motion? If you allow this question of a grant to the British Institute of Preventive Medicine to be re-opened to-night, that means you are prepared to allow the work of your Council to be reviewed, and if you are not satisfied with the act of your Council in regard to this Institute, then you ought to be dissatisfied with the action of the Council in connection with the Jubilee Memorial Fund. Mr. Hunting uses the sophistical argument that we shall not bind ourselves to pay the money until it is in hand. Well, if we are not to pay the money until the treasnrer has sufficient funds, why not re-open the question when this time arrives instead of now. Let us wait until that time comes. That, however, is not my chief objection to this motion. My chief point against it is that if we entertain the motion at all our doing so can only be translated as a vote of want of confidence in—it you like, as a reflection upon—the action of our council; and that is a thing which I do not think the Society should tolerate for a moment. We deputed our Council to deal with this matter. They have dealt with it and decided not to make the grant for some reason the exact nature of which I do not know. But the fact remains that the sum has not been granted, and until the proper time arrives I do not think the question should be re-opened. I quite agree with Mr. Hunting that the Institute is a praiseworthy object to which this Society should contribute. I may say that I voted in favour of the recommendation of a grant on the part of the Council, and I shall be prepared to do so again at the proper time. Still, I do object to this question being re-opened at this present moment, and I do so on the very ground urged by Mr. Hunting himself: that there is no intention to appropriate the money until the funds of the Society justify its appropriation to the object in view.

Mr. HUNTING: It may save the time of the meeting if I say that, after the remarks of Professor Macqueen, I am prepared to withdraw my motion. I will withdraw it for this reason: Professor Macqueen has expressed his approval of the Institute, and asks us to wait. I have no objection to wait. May I also add that I wish to utterly repudiate any reflection upon the Council. It was the last thing in my mind.

The Veterinary Department of the Board of Agriculture Recent Appointments.

Mr. H. EDGAR: A notice stands on the agenda paper with my name attached, which requires me to bring forward the subject of the appointment of a *layman* as the head of the Veterinary Department of the Board of Agriculture. Taking for granted that the rumours which have appeared in *The Veterinary Record* are an established fact, it behoves us to seriously consider the position of affairs, and, if possible, decide what action is best to get such an apparent injustice corrected.

In the first place, does it not appear on the surface to be manifestly unfair to Messrs. Cope and Duguid that a layman, whatever his qualifications and

abilities may be—and we are not here concerned with personalities, as it is not the person put in that position that we attack, but the principle actuating such steps—should be placed over their heads, when they have faithfully and honourably in past times fulfilled the arduous duties which devolved upon them, and received as they did words of commendation from their late Director, Professor Brown. I take it that in any case of difficulty and doubt which may come before the Assistant-Inspector or Chief Inspector, it is to the Principal of the Department that the case ought to be remitted for a final discussion. Are these two professional gentlemen who have made the science of disease a life-long study to submit to a layman's opinion and decision? If not, they have the responsibility, and he the honour.

Secondly, is it not an insult to the profession, and perhaps the greatest that could be offered, implying as it does that our profession is not capable of directing a veterinary department, and that veterinary surgeons and inspectors are to submit to a final decision from a layman in cases of disease, which they are compelled to send to the Board of Agriculture in order that their expressed opinion may be confirmed or rejected?

In the third place it is true from an economical point of view, by this arrangement some paltry £300 a year is saved, at least this appears so from the figures quoted in last week's *Veterinary Record*. But what is this paltry saving compared with thousands of pounds that are involved in the proper judicial directing of such a department, and in the regulation and importation of cattle, sheep and pigs, when there is a serious outbreak of disease?

Fourthly, is is not absolutely essential that the fullest confidence should be placed in this department both by the veterinary profession, stockowners, and the public? It needs no words from me to point out that the course adopted by the Board will not increase, but greatly diminish such confidence, for proof of this I refer to the letters and extracts which have appeared in *The Veterinary Record*, *The Standard*, *Live Stock Journal*, *Manchester Courier*, and *Yorkshire Post*.

Fifthly, it was a generally admitted fact that when there were three veterinary surgeons at the head of this department they were always busy, and had their hands full in deciding the cases submitted to them. What will be the result now if two have the work and responsibilities of three?

Can a man give a better opinion when he is hurried to get through the amount of work that lies before him, and when his mind and body become wearied and overwrought? The answer must be, no. Then what must be the result? A delay in deciding cases, the spread of disease, loss to stockowners, and increase of rates to the taxpayers. Is this efficiency? Is this true economy? Is this a wise, long-sighted policy?

Gentlemen, the thin edge of the wedge was inserted when laymen of varying capabilities were appointed as travelling inspectors, and now the wedge is apparently driven right home. What can we do? Two courses are open. We can either remain silent and inactive now, and for ever after hold our tongue, or leave not one stone unturned until the profession, stockowners, and public are satisfied that the present arrangement is the best. I beg to propose—"That this society communicate with the Royal College of Veterinary Surgeons, and with every veterinary medical society in the United Kingdom, asking for their opinions and sanction for a deputation representing the whole of the said societies, and the profession generally, to wait upon the Minister of the Board of Agriculture, or preferably the Prime Minister, and also that members of Parliament be invited to bring the matter before their constituencies, especially stockowners, and, if necessary, call the attention of the House of Commons to the subject." It is for us as veterinary surgeons to lead the way and show a united front; then stockowners and the public will follow. Let us do what is right, just, and wise. Personally, I am

prepared to bring the matter before the member representing the division in which I reside.

Mr. HURNDALL seconded the motion.

Mr. SAMSON said that it was an insult to the veterinary profession to appoint a layman as chief of the veterinary department of the Board of Agriculture. But, if he remembered rightly, even when Professor Brown, C.B., was at the head of the department, they had laymen appointed as travelling inspectors. If, however, that gentleman had spoken out for the profession he could, no doubt, have stopped that abuse. He (Mr. Samson) would like to know from the two veterinarians who were now in charge of the department in a secondary way, whether they were disposed to defend the just claims of the profession and see if the existing arrangement as to the appointment of veterinary inspectors could not be altered. When Professor Brown was at the head of the department he did not trouble his head about his brethren in the profession, although, if he liked, he could have exercised the whole and sole control over the department. Some of the laymen who had been appointed to do veterinary work were afraid of dirtying their shoes, to say nothing of their hands. If £300 had been saved in the re-organisation of the department, more than that sum had been lavished upon travelling inspectors whose qualification seemed to be that they were military men, and not veterinarians at all. One of the travelling inspectors bore the same name as the head of the department. He should like to know whether the gentleman was any relation to the principal.

Mr. H. EDGAR said that when travelling inspectors were about to be appointed, he wrote to Professor Brown and was informed in reply that the position was not one for a veterinary surgeon to take up.

Mr. ROWE said that he received a private intimation that a number of travelling inspectors were to be appointed, and as he had some time to dispose of he sought one of the appointments. He was courteously told in reply that it was not the intention of the Board of Agriculture to appoint veterinary surgeons as travelling inspectors, because in that case it was likely that the inspectors and the local veterinary surgeons might not agree. Hence it was thought desirable that an ignoramus should be appointed as a travelling inspector in preference to an experienced veterinary surgeon.

Mr. HUNTING said there might be a strong argument in favour of the appointment of lay inspectors, but the question was, what work were they employed to do. The thin end of the wedge was got in by setting them first to see that cattle trucks were disinfected and to perform similar easy duties. They performed, in fact, the work of policemen. (Mr. Samson: But they were better paid.) Yes, and they were more efficient and reliable men for the job. He had no objection to the British Government paying men well for the discharge of responsible duties. Subsequently there was an attack on pleuro-pneumonia among cattle, and then they found—according to the Government's reports—that this attack was left to be met by travelling inspectors with the assistance of local veterinary surgeons. That was putting the veterinary profession in the second place a little. Well, the department was so pleased with the lay inspectors' action in this matter, so delighted that they had done things which occurred to veterinarians years before, that they said to themselves "by Jove! we can do without the veterinary profession altogether." And when, subsequently, they had swine-fever to tackle they made—as everybody knows—a really good job of that. Then it was a case of the travelling inspector without the aid of the local veterinary surgeon at all. The lay inspector cut out the veterinary practitioner altogether. What the profession should go for was to support the local veterinary surgeons who, at the instance of the local authority, were able to stamp out contagious disease without the aid of lay travelling inspectors. If they were left to do

so, then the thirty-two or thirty-three military men who had been appointed travelling inspectors would be in the enjoyment of perfect sinecures.

Mr. HURNDALL said he must thank Mr. Hunting for the clever article he read in the previous week's *Veterinary Record* on "How to deal with Tuberculosis." He never enjoyed his breakfast so much for the last six months as he did after reading that article on the preceding Saturday morning. He felt that his friend (Mr. Hunting) was coming round to view matters in the light in which he (Mr. Hurndall) had regarded them for a long time, namely, that if they tamely submitted to the methods in vogue by the Veterinary Department for stamping out disease, they would render their position nugatory, and presently there would be nothing to do. He had suggested this before and once mentioned to Professor Axe that it was quite time veterinary surgeons began to look after their own interests. The Professor replied "You will see that we shall get properly recognised." Well, they saw how they had been recognised. After reading Mr. Hunting's article he congratulated the profession that the editor of the *Veterinary Record* had at length taken up the cudgels in behalf of the profession. It was necessary that veterinary surgeons should support each other. Let the local veterinary surgeon have his fair share of work, and let no one interfere with him. It was requisite that they should all stand by each other. Unless they did so, their profession, which was not worth much at the best of times, would soon be worth less, and would be reduced to pitiable straits. He dared say that they would regard him as a *rara avis* when he declared that up to the present time he had been a consistent Radical in Imperial politics. As a Radical he was bound to say that he had been very much disgusted with the way in which the Government had attacked the interests of the veterinary profession. Further, he regarded Mr. Herbert Gardner, the President of the Board of Agriculture, as one of the greatest offenders that had ever occupied that position. Hence he believed that to appeal to that gentleman for justice, for any redress of their grievances, or remedial measures, would be a mere waste of valuable time. He suggested that they should go to the head of the Government. Lord Rosebery was a sporting man, let them appeal to him. Let them give Mr. Herbert Gardner the cold shoulder. They had nothing to lose by adopting that course. Mr. Gardner had been approached before on matters which concerned the veterinary profession and he had absolutely ignored them. On that ground he suggested that they should not try him any more. From Lord Rosebery they might get justice. At all events the Premier, if they sought his intervention, might bring pressure to bear upon the gentleman at the head of the Board of Agriculture.

The CHAIRMAN: This is the most important subject, in fact, one of the most important subjects that has been before the veterinary profession for a number of years. I am very anxious that we should discuss it very fully and arrive at a wise decision. Mr. Hurndall suggests that we seek an interview with the Prime Minister. It seems to me that our position would be strengthened by acting in conjunction with the Council of the Royal College of Veterinary Surgeons in this matter. We should then have a better *locus standi* in appearing before any member of the Government.

Mr. EDGAR amended his motion by including in it the Royal College of Veterinary Surgeons as it appears above.

Mr. HURNDALL said that the deputation should be representative of the entire profession, and embrace the president and secretaries of the different veterinary medical societies as well as representatives of the Royal College.

The CHAIRMAN: When is the next meeting of Council of the Royal College of Veterinary Surgeons?

Mr. HUNTING: I think there will be a special meeting of the Council in March.

The CHAIRMAN: About a month from now? Why I ask is, that it is of very great importance that the deputation should go at once.

Mr. HURNDALL: Is the matter not important enough to justify a special meeting of the Council?

Mr. HUNTING: If more than one society applies to us we will call a special meeting forthwith.

Professor MACQUEEN said that he thought they should consider this question on a little larger basis. He was not in agreement with Mr. Hurndall that they should approach the Prime Minister, because he did not think Lord Rosebery would consent to receive any deputation of the kind. He thought that the proper method of procedure was to approach the Minister of Agriculture, notwithstanding his peculiar views concerning them. They must also obtain, if possible, the influence and assistance of Members of Parliament. In approaching the provincial veterinary societies that, he thought, should be one of their chief objects. They must ask the provincial societies to invoke the aid in this matter of their local Members of Parliament. The dissatisfaction felt at the treatment of members of the veterinary profession by the Board of Agriculture was quite general throughout the country. He thought it was unnecessary to see the Council of the College on this subject by deputation, seeing that Mr. Hunting, the President of the College, was present, and would doubtless undertake to represent their views to the Council.

The resolution was then put and carried uuanimously.

The CHAIRMAN: I think we had better appoint a small committee to draw up a form of memorial and do the other incidental work. I mean, that we cannot put too much upon our secretary's shoulders.

The following gentlemen were then constituted the committee for the purpose named:—Messrs. Edgar, M. Clarke, Rowe, Hurndall, Singleton, Prof. Macqueen, and the President and Secretary of the Society *ex officio*.

(*To be continued.*)

NORTH OF ENGLAND VETERINARY MEDICAL ASSOCIATION.

Annual Meeting.

THE Annual Meeting of the Association was held on Friday, the 15th of February, at the Hotel Metropole, Newcastle-on-Tyne. The President, Mr. G. M. Mitchell, occupied the chair, and there were also present Messrs. J. R. Crone, W. Hunter, J. W. Rider, D. McGregor, W. Grieve, C. Stephenson, J. B. Nisbet, H. Hunter, A. Hunter, Vet.-Major Durrant, A. A. Stevens, J. E. Peele, A. Chivas, T. R. Jarvie, C. Hunting, A. Dalgleish, G. Elphick, J. Gofton, and the secretary, F. T. Finney. Visitors—J. Malcolm, Birmingham; Councillors—J. A. Batey, A. P. Anderson and R. L. Dunford, Dr. H. E. Armstrong, H. H. Roberts, G. W. Lee, and F. C. Robson.

The SECRETARY, Mr. Fred. T. Finney, submitted a financial statement, which, on the motion of Mr. ELPHICK, seconded by Mr. J. B. NISBET, was adopted.

The SECRETARY then read letters from the following who wrote expressing inability to be present:—Mayor and Sheriff of Newcastle, Professors McFadyean, Williams, McCall, J. W. T. Moore, Dr. G. R. Murray, and W. Dotchin.

Votes of Condolence.

The PRESIDENT said at this stage of the proceedings he thought it would be fitting that they should express their regret at the death of Professor Walley. He was sure everyone present would remember the great interest Professor Walley had taken in their Association. He had been frequently

present there, and had aided them in their discussions. As a student under Professor Walley he (the President) could testify to the fatherly interest he took in the students. With their permission he would propose that the Secretary be instructed to send a letter of condolence to Mrs. Walley and the family of the late Professor, and that they record in their minutes their deep sense of the loss the profession had suffered by Professor Walley's death.

Mr. H. HUNTER seconded the resolution. He and the late professor had been fellow students and they had kept up a correspondence to the time of his death. He was a good student and a good teacher, and no man had done more towards advancing the profession. He was always willing, not only to do the best he could for the students, but also to assist his fellow practitioners. He (Mr. Hunter) endorsed everything the President had said, and was quite sure all present would do the same.

Mr. CLEMENT STEPHENSON said Professor Walley had been a very old friend of his. He had always found him a first-class man in every respect. It had struck him (Mr. Stephenson), as soon as he heard this mentioned, that they ought also to pass a vote of condolence on the death of the late Mr. Henry Wilkinson, of this city. A more brilliant member of the profession had never existed, and those of them who could look back to the period between 1860 and 1875 would remember him as one of the finest men they had ever had in their profession. He was naturally clever, and that was backed up by a fine education. He was a born veterinary surgeon, and was gentle in everything he did. By his death the profession had suffered a very great loss indeed. He (Mr. Stephenson) moved that a letter of condolence be sent to the family of the late Mr. Wilkinson.

Mr. C. HUNTING had great pleasure in seconding the proposition. The late Mr. Wilkinson had been a very old friend of his indeed. He could endorse what Mr. Stephenson had said, especially as to Mr. Wilkinson's brilliant abilities. He was a highly-educated man, and a close observer of all the diseases to which domesticated animals were subject. He (Mr. Hunting) had never in his experience met Mr. Wilkinson's equal. Mr. Wilkinson seemed to have a power of intuitively diagnosing his cases such as very few men indeed were possessed of. His disposition was of the kindliest. During all the years that he (Mr. Hunting) knew him—from 1852 to the time of his death—he never heard that Mr. Wilkinson had ever been known to do a mean act or an underhand trick.

The PRESIDENT endorsed what the previous speakers had said with regard to Mr. Wilkinson, whom he had met on several occasions, and whom he had always found to be kindly and courteous, and willing to assist with his advice.

It was unanimously agreed that letters of condolence be sent to Mrs. Walley and to Mrs. Wilkinson.

Mr. HUNTING referred to the death of Professor Gamgee. As a scientist no man in the profession had approached Professor Gamgee. He had few equals in Europe. In 1865 he was the means of lifting a cloud which had crept over the veterinarians of England. They had then imported into this country a disease which had not been seen here for 200 years. None of them knew anything about it. But Professor Gamgee, who had studied in Italy where it was almost annually seen, knew it, and declared it to be the cattle plague. He proposed stamping it out by isolation and slaughter. They designated him a pole-axe doctor and ridiculed his advice. But, as they all knew, it was afterwards acted upon, and the disease at once ceased. Having spoken of Professor Gamgee's works, foremost among which was his book on the cattle plague, Mr. Hunting concluded by proposing that a letter of condolence be sent to the family of the late Professor.

Mr. D. MCGREGOR seconded the proposition. As a student of the late

Professor he could well speak of his capabilities, which were in every respect as had been stated. He remembered Dr. Smart, who advised the Government to go against the advice of Professor Gamgee. The medical profession undertook to cure the disease, but they had heard how costly had been their futile experiments, and how ultimately they had been obliged to accept the Professor's advice, and compensate the farmers. The poor owners who had lost cattle before that got nothing. He (Mr. McGregor) had never heard such a lecturer as Professor Gamgee in all departments of science.

The resolution was carried unanimously.

Mr. GEORGE M. MITCHELL, M.R.C.V.S., then delivered his Presidential Address. He said:

Gentlemen,—I rise to thank you most heartily for the compliment which you paid me at the last meeting of this Association in unanimously electing me your President for the ensuing year. I assure you I appreciate the honour which you have conferred, but doubt my ability to perform with the same efficiency, the duties which in past years have been so ably carried out by my predecessors. As far as I am able I shall endeavour to make the coming year as successful as any that has gone before, and relying on the sympathy and support of the members, trust to advance the welfare of this Association, the interests of which we all have at heart.

Seeing we have so many great and shining lights in our profession to guide and illumine us by their brilliancy, I must confess it is difficult to touch on any subject that has not already been dealt with and on which they have not expatiated, therefore, as I have nothing new to put before you, I crave your indulgence to listen for a short time while I speak about a few things that, though somewhat hackneyed, are still of interest to us.

A topic much talked about in veterinary circles at present is the proposed establishment of a veterinary college in Ireland. It is a subject of considerable importance to the profession; and as the promoters of this rival teaching-school propose to affiliate it to the Royal College of Veterinary Surgeons, one might be inclined to say that, as a body of practitioners, we had no reason to complain. However, when we consider that the Government have promised £15,000 towards this Institution (money drawn mainly from the taxpayers of this country), we have just grounds for complaint seeing respective Governments have hitherto declined to grant State aid to the existing teaching schools. This action is not in accordance with our sense of British fair play, and I fear we have not seen the end of this question.

As regards our Council, whilst agreeing with a great deal of the work it has accomplished in past years, I think that the step it has taken in conjunction with the Farriers' Company and the Royal Agricultural Society, is, to say the least of it, unfortunate. There is no veterinary surgeon who does not wish to see the art of horse-shoeing improved, for we have all witnessed the evil effects to horses' feet occasioned by careless and incompetent shoeing-smiths. However, I question if this end will be attained by granting certificates to men who are not thoroughly efficient in every branch of the work; therefore, I hope that members of our profession who may be called upon in future to sign certificates of proficiency in the art of shoeing, will see to it that the aspirant is really and truly a competent workman. As to the title, "farrier," we north country practitioners know very well that the term frequently applied to the veterinary surgeon, and especially in country districts. It is misleading to the public for shoeing-smiths to assume the title, "farrier," and the sooner the present arrangement is rescinded the better. We all know how fond many of them are of doing a little doctoring, for with competition of one sort and another to contend with, we can ill afford the door to be opened to quackery.

I consider the raising of the educational standard a step in the right direction. Candidates, before they can now enter our colleges, are obliged to furnish evidence of having received a general education equal to that required for the study of law and medicine, and after admission, they have also to undergo a professional training extending over a period of four years. Even this high standard of education and lengthened professional training does not satisfy some of the members of the profession, and they would add two years' compulsory pupilage with a duly-qualified veterinary surgeon. With such views I have no sympathy. Surely, if a student goes through the four years' curriculum, and passes the examinations of the Royal College of Veterinary Surgeons, he should be a scientific and practical veterinarian. Thanks to the Board of Agriculture, the country is now clear of pleuro-pneumonia and foot-and-mouth disease.

Encouraged by the complete success of the stamping-out policy in pleuro-pneumonia the Board have attacked swine fever in the same way; and although this is a work of great magnitude, no doubt it will be successfully accomplished in the end. It is a matter for regret that tuberculosis is still allowed to remain outside the Contagious Disease Act, seeing it is by far the most widespread, and as regards the loss occasioned by it, the most serious of all the diseases of farm stock. Among cows tuberculosis is on the increase. This is probably due to a want of knowledge on the part of cowkeepers and others regarding the causation of the disease. Ever since Koch incontestably demonstrated the existence of a special germ, all disputes regarding the cause of tuberculosis had in one sense been settled. The hereditary or congenital theory regarding the transmissibility of tuberculosis still prevailed both among veterinary surgeons and stockowners, although according to our best authorities it was no longer tenable. Facts and statistics clearly upheld the view that it was a contagious malady which could with certainty be spread by housing tuberculous and healthy cattle together. As veterinary surgeons it is our province to diffuse correct notions regarding the cause of tuberculosis; and as we can now separate the diseased from the healthy animals in a herd by the use of tuberculin, farmers and other owners may stamp out the disease at a cost that would be trifling compared with the loss entailed by the present neglect of all precautions against the spread of the malady, powers ought to be granted in the interest of the public health to the local authority to prevent the sale of milk from tuberculous cows, and to compensate the butcher for the loss he has to bear for the benefit of the public when he has the carcase of what was to outward observation a healthy animal when alive, condemned because it is affected with tuberculosis.

Gentlemen, I will not further occupy your time only to apologise for not having something better to offer you than these few disjointed remarks. I again thank you for placing me in the chair to preside over the meetings of this Association, and now have the pleasure of introducing my friend Mr. Malcolm who will interest you much better than I could hope to do.

Mr. JOHN MALCOLM, F.R.C.V.S., Birmingham, then read a paper on—

"GASTRIC RUPTURE AND INTESTINAL TORSION,"

and said it was with diffidence and hesitation he came to read a paper before that Association, as he ran the risk of debarring them from hearing someone on a subject that might be of more interest than the one he ventured to introduce. But the desire to join hands with them in honouring their president, his old college friend and companion, George Mitchell; the anticipated pleasure of renewing friendship with members of an Association to which he used to belong; and the prospect of deriving the benefit of their experience upon a subject of great interest to him, had induced him to acquiesce in their Secretary's request.

He then referred at some length to the heavy annual mortality among horses from gastro-enteric lesions, and asserted that, so far as his own experience went, these lesions were rather on the increase than decrease, and he expressed the opinion that probably half the mortality among the equine species occurred from some gastro-enteric trouble.

In referring to anatomical and physiological conditions, which the speaker considered seemed to favour the production of gastric rupture and intestinal torsion, he instanced the relatively small equine stomach, its liability to impaction, and the impossibility, generally speaking, of relieving it when surcharged, by vomition.

He then went on to refer to the position and direction of the duodenum, and the enormous size and free disposition of the large bowel, and said he considered that these, under certain conditions, enhanced the liability to rupture and twist respectively.

In his experience, the great cause of these fatal lesions was to be found in some defect in food or feeding. Where too large quantities of food were given at irregular intervals, these lesions were common. In connection with this point he considered mixed food, *i.e.*, mixed corn and hay, especially when the proportion of corn was large, more liable to induce both rupture and twist than the old plan of feeding with corn and hay separately. This he explained by the greater rapidity with which mixed food could be consumed than the unmixed, and asserted that the more rapidly the food was consumed so was the liability to engorgement increased. He believed there was no more prolific cause of rupture or twist than gastric engorgement.

Cases were cited where the speaker was able to satisfy himself that deficiency of water during the dry spring and early summer of 1893 gave rise both to cases of rupture and twist, and when a plentiful supply of water was secured the cases at once ceased. The evils of excessive feeding when horses were at rest were next alluded to, and instances of excessive feeding on Sundays giving rise to fatal gastric and intestinal lesions recorded.

In speaking of boiled food he said he could not agree with those who condemned it. In his experience it was not the fact that the food was boiled they had to consider, but the fact that boiled food was usually given in excessive quantities. He could site studs where boiled food had been used for 30 years and where rupture and twist were absolutely unknown.

With reference to the use of wheat as horse food, he was of opinion it could be safely used when ground and damped sometime before being given. Many farmers were so using it at the present time, the inducement to its use being its cheapness. Generally speaking, he was of opinion that the great cause of rupture and twist was the manner in which the feeding and watering were carried out rather than the kind of food given; and he strongly advised all who were troubled by the frequent occurrence of such cases in the studs of which they had charge to try the effect of a change of horse-keeper. He recorded one instance where such a change was followed by an entire cessation of the cases.

Discussion.

The PRESIDENT said he was sure they had all listened with very great interest to the able paper their friend Mr. Malcolm had just read. The subject was one, he took it, which was familiar to most of them. Fortunately for the horses it did not occur every day, because when it did occur it generally proved fatal. Mr. Malcolm had treated it in a very able and comprehensive manner. He had dealt with the cause, which, as in connection with many other diseases, was a great factor. Mr. Malcolm had many advantages which they as general practitioners had not. He had a whole stud under his care, and was able to get at any error, which arose in detail,

in a way that they could not do. He (the President) invited hearty discussion upon the subject.

Mr. C. HUNTING said there was no one present but would agree that the paper just read was an able paper. It must have been the result of many years' careful observation and noting of facts as they had occurred in Mr. Malcolm's practice. He (Mr. Hunting) was greatly pleased to hear such a paper, and would offer a few criticisms upon it. With some statements made by Mr. Malcolm, he did not agree. Mr. Malcolm had given it as his opinion that abdominal disease was more prevalent now than it had been in years past. His (Mr. Hunting's) experience over many thousands of animals, was that it was not within 200 per cent. as frequent now as it had been 50 years ago, or even 20 years ago. His experience over at least five or six thousand animals of the same class and as hard working, was that it was extremely rare they got a case of colic, whereas in 1851-52, when he had under his supervision some 600 or 800 horses out of five or six pits, it was common once or twice a week. Now it was extremely rare that they got one in a month. At the same place, where there were from 100 to 200 animals, they had gone a whole year without having a case of colic. The supply of water in proper quantity was an important point. He did not know whether Mr. Malcolm approved of maize or not. He (Mr. Hunting) had had experiments carried on for a number of years, and his experience was that whenever maize was used to the extent of a third with corn, there was from 200 to 300 per cent. less cases of this disease than when they used oats, beans, and hay. He looked upon maize as a regulator of the digestive organs of the horse. Another curious thing was that cases were more frequent in large horses than in small ones. He had not observed that, but, perhaps, that was because he had no horses more than 15 or 18 cwt., the horses at the pits being generally about eight or nine hundredweights; and that might be one of the reasons why colic or diseases of the digestive organs was so seldom seen there as compared with what Mr. Malcolm had told them. But this he did know that through 20 or 30 collieries where he had from 100 to 300 horses weighing from 13 to 14 cwt. he had not had a case of colic for the last year. Why that should be so he did not know. He should be very much pleased indeed to hear opinions, especially upon this point of feeding—whether colic had been absent in cases where hay, oats, and beans were used as in the cases where maize was used. Mr. Hunting gave particulars of experiments recently carried on by him with regard to the action of foods in the stomach of the horse. In the stomach of animals fed on corn exclusively for four or five days before being killed, he found a large lump of hay three inches in diameter in the centre and the corn food which the horse had had 12 hours before being shot. The food was not mixed, but the whole of the hay was in the centre and the corn was between the membrane of the stomach and the hay. In 1852, in a paper he then wrote, he stated that unquestionably the large intestines of the horse were true organs of digestion—very much more digestive than the stomach itself. And 40 years' experience with many thousands of animals had shown him that the opinion arrived at in 1851 and 1852, was what existed now—that if they gave a horse corn 24 hours or 12 hours, or four hours before they shot it, they would find a very large proportion of that corn in the colon and as far back as the single colon—that was before it entered into the rectum. From the entrance to the colon to the cœcum they found very little difference, and no difference in the anterior part of the colon between the condition of the corn there than they found in the corn remaining in the stomach. So there could be no question whatever that the digestive process was carried on to a much greater extent in the colon of a horse than in the stomach. And what puzzled him was that that was quite contrary to what physiology told him when he was at College. He held that

the absorption from the colon was the principal absorption that took place.

Mr. D. McGREGOR said when he first came here he had ten cases of gripe and rupture to every one he had now. When he came here in 1864 not a day passed—especially Sundays—without his being called to a case. He was frequently called out of bed at two o'clock in the morning to see a horse. Now he was never called at that time. The horses were then kept too long without food. He believed oats to be hard to digest if not masticated. Mr. McGregor described a case of twisted bowel he had recently. The horse died after two hours' illness. A fortnight previously it had had a severe attack of gripes. It had broken from its loose box and wandered away during the night. It was found next morning in a back yard. When taken home it got comparatively well and was worked to the night of its death. It came in at seven o'clock, went perfectly mad and was dead in two hours. He made a *post-mortem* examination and found a double twist in the ileum. He had never seen such a thing before.

(*To be continued.*)

THE MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

THE annual meeting took place at the Grand Hotel, Birmingham, on Friday, February 8th. The President, Mr. H. Olver, of Tamworth, was in the chair, and there were also present:—Messrs. Barrett, Nuneaton; F. W. Barling, Ross; Stanley, Malcolm, J. Blakeway, M. Tailby, E. Price, J. M. Parker, Birmingham; A. Carless, Stafford; F. B. Jones, Leicester; Slipper, Tamworth; J. R. Green, Alfreton; Brooks, Wilson, Handsworth; Wartnaby, Burton-on-Trent; Trigger, Newcastle, Staffs.; Gold, Redditch; Collett, West Bromwich; Smith, Tunstall; Over, Rugby; Grasby, Daventry; Byner, Birmingham; Warmington, Sutton; Furniss, Nottingham; Cartwright, Beddard, Wolverhampton; Pemberton, Bridgnorth; Chambers, Dudley; Prickett, Walsall; H. J. Dawes, hon. sec., West Bromwich. Visitors: Veterinary-Captain Smith, E. T. Pearce.

Letters of apology for non-attendance were received from the following:—Professors Penberthy, Williams, Pritchard, McCall, Macqueen, McFadyean; Sir H. Simpson, Dr. Fleming; Messrs. Mason, Spencer, Greaves, Bainbridge, Russell, Huband, Wragg, etc.

New Members.

The minutes of the last quarterly meeting having been read and confirmed, the PRESIDENT moved, and Mr. TRIGGER seconded, the election of Mr. T. Slipper, of Tamworth.

Mr. J. R. GREEN moved, and Mr. WARTNABY seconded, the election of Mr. J. Furniss, of Nottingham.

Carried unanimously.

The Late Professor Walley.

The PRESIDENT rose for the purpose of proposing a vote of condolence with the family of the late Professor Walley, a gentleman well known as one of the ablest members of the profession. Professor Walley, he said, was one of those who, from the assistance he had rendered to this Association, had been made one of their honorary associates. He had on many occasions attended their meetings and read papers to them. He was quite sure they would all agree that the late Professor had the veterinary profession thoroughly at heart. He would not only move that a letter of condolence be sent to Mrs. Walley and family on the irreparable loss they have sustained, but also that it be signed by the President and Secretary of the Association and properly engrossed.

Mr. MALCOLM said that as an old pupil of the late Professor, he begged to second the motion. The deceased gentleman was personally known to nearly all of them, and was almost essentially a "Midland" man. There were few meetings which he attended more regularly than those of this Association, and there were few institutions in which he took a deeper interest. Professor Walley took a remarkable interest in all his students, and if they did not succeed in their profession it was their own fault. The consequence was that on a student leaving College, he was a friend of the Professor for life. The profession generally would regret his removal. The Professor was an able teacher, a scientific practitioner, an eloquent writer, and his decease was a national loss.

The resolution was carried *sub silenti.*

Election of Officers.

The PRESIDENT said it had been customary among his predecessors before vacating the chair, to give them a short *resumé* of the proceedings of the year. He thought it somewhat unnecessary to do more than remind them briefly of what had taken place. At the first meeting Professor Penberthy gave them an interesting paper on "Common Parasites of the Stomach and Intestines of Domesticated Animals." At the second meeting Professor Williams gave them an address on "Skin Diseases." At the third meeting, he was proud to say, a Midland Counties man gave them a very original paper on "Canker and some allied Morbid Processes," and there they were that day assembled for the fourth time during his year of office, anticipating an interesting and instructive discourse from their friend Captain Smith. Without further preface he would proceed at once to the nomination of his successor, and he had in his mind's eye a gentleman, who, he thought, would prove acceptable to everyone of them. He alluded to his friend and neighbour, Mr. Wartnaby, of Burton-on-Trent. He felt sure they could not place themselves in abler or worthier hands. As the National Association was to meet here this year, there would be a great deal of important work to be done, and on that account, as much as any other, he had pleasure in proposing that Mr. Wartnaby be president of this Association for the ensuing twelve months.

Mr. STANLEY having briefly seconded,

Mr. TRIGGER supported, and said they had something more than usual to expect of their president next year. He certainly thought Mr. Wartnaby was a gentleman eminently calculated to rule over their deliberations.

The resolution having been carried unanimously and amid applause.

Mr. WARTNABY returned thanks. He said he was very sensible of the compliment they had paid in electing him president of the Association. It was an unfortunate thing for him that he should be called upon to succeed so able a president as his friend Mr. Olver. However, he should do his best to fill the post with credit to himself and with satisfaction to his fellow members, believing that with their kindly co-operation, their future gatherings would lose none of their interest or prestige.

The retiring President, Mr. Olver, becomes a vice-president *ex-officio.* The two others, who were unanimously elected, were Mr. W. Stanley Carless, of Worcester, and Mr. J. R. Green, of Alfreton,—the former on the motion of Mr. STANLEY, seconded by Mr. F. W. BARLING; and the latter on the motion of Mr. TRIGGER, seconded by the HON. SECRETARY, Mr. H. J. Dawes.

Mr. TRIGGER said he had great pleasure in moving the re-election of Mr. John Blakeway as treasurer of the Association. Every year Mr. Blakeway remained in office he showed them how well he followed in the footsteps of his father, who was their treasurer for so many years.

Mr. W. CARLESS seconded. He had just gone through the accounts and was thus in a position to testify to their correctness.

Mr. MALCOLM briefly supported the motion, which was unanimously carried.

Mr. WARTNABY proposed that Mr. H. J. Dawes be re-appointed hon. sec. He was afraid it was the case of the "willing horse" over again. He sincerely hoped Mr. Dawes would consent to remain in office, as it would be a source of much satisfaction to him, as the president-elect, to feel that he had for his right hand man a gentleman of Mr. Dawes' conspicuous ability.

The PRESIDENT wished to be allowed to second that proposition, because it afforded him an opportunity of testifying to Mr. Dawes' zeal and energy on behalf of the Association during the past year. He had had to deal with a good many secretaries, in one capacity or another, but he had never met with one who performed his duties so well as Mr. Dawes, in whose hands the welfare of the Association was perfectly safe.

The resolution was unanimously carried, and Mr. Dawes acknowledged the compliment, and signified his readiness to continue as their secretary.

Treasurer's Annual Report.

The TREASURER presented his annual statement of accounts. The receipts amounted to £228 15s. 10d., being derived from the following sources: balance in bank from previous year, £183 5s. 7d.; subscriptions and entrance fees for 1894 paid into bank, £40 10s.; bank interest, £5 0s. 3d. The payments during the year had been £31 10s. 9d. per the Hon. Sec., and 11s. 6d. per the Treasurer, leaving a balance in hand of £196 13s. 7d. He had to report that there was £4 less paid in subscriptions and entrance fees this year than last, whilst certain exceptional items had made the Hon. Sec.'s bill much heavier than usual.

On the motion of the PRESIDENT, seconded by Mr. GREEN, the accounts were passed.

Notice of Motion.

The TREASURER proceeded to ask for the appointment of an official auditor. The funds of the Association were increasing year by year, and he felt it a great responsibility acting as treasurer without any sort of check upon himself whatever. He felt sure the members were of the same opinion, and he thought they would appoint an auditor or auditors with much better grace if he made the proposal himself.

The HON. SECRETARY pointed out that to make such an appointment would necessitate an alteration of Rule 2, and to alter a rule notice of motion was necessary.

The TREASURER therefore gave notice that at the next meeting of the Association he should move "that Rule 2 be so altered as to admit of the appointment of an official auditor or auditors.

The British Institute of Preventive Medicine.

Mr. MALCOLM, in accordance with notice given at the previous meeting, moved "That a grant of £25 be made to the British Institute of Preventive Medicine." As the matter was fully discussed at the last meeting, it was unnecessary that he should say much about it now. The fact that the Institute in question intended to do its best to investigate the origin, cause, and prevention of diseases in animals was the reason why it ought to appeal to them. Whatever might be said to the contrary, the aims of the Institute were similar in many respects to their own, in which statement the Royal College of Veterinary Surgeons happened to agree. The College had given evidence at one of their recent meetings of their belief that the Institute would be of some service to the veterinary profession, and with the object of assisting it, had voted the sum of £100 towards the Institute. He thought this Association could hardly do otherwise than follow the example of the College.

Mr. WARTNABY said he had very much pleasure in seconding the resolution.

The TREASURER moved as an amendment that the sum of 10 guineas be given. He would remind them that although they had a tolerably large balance, £50 of it was already mortgaged, because it had been promised towards the Jubilee Memorial.

Mr. SMITH seconded the amendment.

Mr. STANLEY thought if they were to give anything at all, it should be £25. If their funds would not allow of that, let them give nothing at present; but for the credit of the Association they ought to subscribe more than ten guineas.

Mr. W. CARLESS having supported the original motion,

The PRESIDENT said he was convinced, from information which had come to his knowledge, that the Institute would be of very considerable value to the veterinary profession, and he hoped the subscription would be £25, as proposed.

On a vote being taken, Mr. Malcolm's motion was carried by an overwhelming majority.

Synopsis of address by Veterinary-Captain F. SMITH, on—

"THE STOMACH OF THE HORSE AND ITS DISEASES."

Anatomy of the Stomach.—Position in the living animal, capacity, structure, glands, and innervation.

Physiology.—The changes occurring to the food during digestion. Rate at which the chyme passes out and the conditions which determine it. No churning movement present. No absorption from the stomach of the horse. The practical bearing of this fact in the treatment of disease. Paralysis of the stomach readily induced; the effect of this on the passage of material into the intestine. The bursting strain of the stomach compared with that of the intestine. The "duodenal trap" and its influence. The production of ruptured stomach. Vomiting in the horse; its significance; the causes which interfere with its production.

Pathology.—Gastritis a rare disease unless from irritant poisoning. Gastritis and enteritis compared, colour of the mucous membrane no indication of gastritis.

Stomach diseases appear to be mainly diseases of distension either from gas or food, though stomach colic in all probability occurs, but not capable of being recognised apart from that of the intestines.

Dilatation of the Stomach described by Percivall; its definition, causes, mouldy food, boiled foods, wind-sucking, change in diet, large quantities of food. Symptoms: œsophageal gurgling, tympany forward under the ribs, character of the pain aids to diagnosis. Brief outline of recorded cases. Treatment: lime water and solution of potash recommended as active absorbents of carbonic acid gas, which practically represents half the gases present. Puncture of bowels. Internal use of drugs intended to purge or relieve pain useless if administered by the stomach as they are not absorbed. Hypodermic or intra-tracheal treatment recommended. The œsophageal dilator, and indications for its use.

Sub-acute dilatation, how distinguished from acute. Early frequent eructation of gases generally a good sign. Treatment as for acute, in addition abdominal compression.

Rupture of the Stomach, causes from without, causes from within, the latter the most common; character of the rent, the value of the omentum. Variable nature of the symptoms, vomiting before or after rupture. Recorded cases.

Stomach staggers not touched on as the lecturer knew nothing of the disease.

Discussion.

Mr. J. MALCOLM opened the discussion, and said they were exceedingly indebted to Captain Smith for his particularly able and interesting address. There was no more important subject to those engaged in town practice than ruptured stomach, and diseases of the stomach generally, which were by no means rare. Within the last 13 or 14 years he had had three distinct outbreaks of ruptured stomach and twisted bowels—the two things being practically co-existent, and he was led to the same conclusion as Captain Smith, namely, that ruptured stomach depended more upon internal than external causes—that it was due rather to the feeding and management than to rolling or knocking about. Exactly how those cases came about was very difficult to explain, but the very able address on the anatomy and physiology of the stomach which they had heard that day, would assist them very materially in arriving at an accurate conclusion. One of the outbreaks he had to deal with he largely attributed at the time to a condition different to any Captain Smith had spoken of, and that was lack of water. It occurred during the hot summer of last year, at a stable which contained 23 horses. At their other stables the horses were fed with the same food, did the same work, and were under the same management, yet they were not affected. He never hesitated at first to put it down to some defect in the management, but as he could not determine the proper cause he sent one of his staff to act as a kind of detective. He watched the whole procedure, and found that the men neglected to water the horses during the day. The natural result was that when they came in at night they drank heavily and consumed their food ravenously. Since that had been put a stop to, they had not had another case. He (Mr. Malcolm) thought that was fair evidence that the lack of water had to do with the outbreak. He understood Captain Smith to say that if there was eructation in the œsophagus there would not be rupture of the stomach. He (Mr. Malcolm) had seen several such cases which had unfortunately terminated in rupture. He agreed with Captain Smith about the rarity of gastritis, nor was enteritis so common as it was sometimes said to be. He differed with Captain Smith as to the effects of boiled food. At his (Mr. Malcolm's) home in Scotland, the horses were fed every night upon boiled food, and he never met with a case of ruptured stomach there, although that perhaps might be owing to the fact that they did not give the horses too much at once. He had no doubt mouldy hay would cause tympany, the best cure for which, in his opinion, was tapping.

(*To be continued.*)

SPRING EXAMINATIONS, ONTARIO VETERINARY COLLEGE.

DURING the whole of March, written examinations go on at this College. But these written examinations are for honours, and only in the last week of the month are the tests for graduation applied. In that week the Board of Examiners, appointed by the Government, meet daily for the examination of the candidates. The Board consists of the following veterinary surgeons, viz., Messrs. Wilson, Elliott, Cowan, O'Neil, Shaw, and Loyd, assisted by J. Thorburn, M.D. It was no light ordeal through which the students went in presenting themselves before these gentlemen, but the graduating class, this spring, was an excellent one, and a very high percentage succeeded in obtaining diplomas.

The closing exercises of the College took place on the 29th of March. The large lecture room of the College was filled by the students and their friends. On the platform were Principal A. Smith, F.R.C.V.S., Lieutenant-Governor

Kirkpatrick, Principal Caven, Dr. Thorburn, Dr. Daniel Clark, Dr. J. T. Duncan, Col. Boulton, William Christie, Esq., and others.

Principal SMITH, presiding, in a few introductory remarks, said that in the last two years there had been a falling off in the number of students attending, although the extent of country represented by them was greater than ever before. The College was attended by students from all parts of Canada, the United States, and Great Britain.

Extracts from Foreign Journals.

RABIES PARALYTICA IN THE LARGE RUMINANT.

ON the 7th November last I was sent for by a client to examine one of his cows which had been ailing since the previous evening. On my arrival I was taken by the proprietor to see a young cow – just five years old—of Gascon breed, which was showing symptoms of some kind of gastro-intestinal inflammation; the pulse was hard and quick, conjunctivæ red and injected; flatulence accompanied with tympany and slight colic-pains; respiration quick and laboured, grinding of the molars, dry muzzle, constipation; excreta hard, covered with mucus; hind-quarters swaying about; staring coat and hyperæsthesia of the dorso-lumbar column. The patient, which betrayed her pain by slight but almost continued moans, remained for a long time lying, resting her muzzle on the manger or letting her head lie on one of the sides of the thorax. The appetite had not entirely vanished, for the animal was still eating a good part of her daily food, but rumination was very rare, she had a burning thirst, and it was plain to me that she had considerable difficulty in swallowing, especially liquids. My diagnosis was acute gastro-enteritis; I prescribed for her treatment emollient drenches holding in solution gentle purgatives, and, for external application, emollient fomentations and revulsives; for regimen, farinaceous food in small quantities.

On the following day I returned to see my patient, which had seemed to me the evening before to be very unwell and to be presenting symptoms as above described, that made me somewhat uneasy. I found her in the following condition: the flatulence had entirely disappeared, the flanks of the animal were hollow and sunk and the abdomen limp; no trace of colic, appetite restored and rumination likewise; on the other hand, extraordinary weakness of the hinder-quarters, with noticeable curving of the sacral region, violent attempts at defecation, and obstinate constipation. The contrast between the marked improvement that had taken place in the general condition of the patient and the great weakness of the hinder-quarters struck me as being very strange. "Can it be *rabies*?" I said to myself, and I immediately requested the owner to have the animal brought outside. Her gait was a mere stagger, her hinder-quarters rocking from side to side, and she seemed to be always on the point of falling; she did fall once or twice and we had the utmost difficulty in getting her on to her feet again. Knowing, as all veterinary men know, that the dog is an excellent re-agent in cases of *rabies* among the large ruminants, I excited one to attack the cow, but she was in no way affected by it, and returned quietly to her stall after having attempted to browse upon a few blades of withered grass near the door of the cow-house. These two symptoms appearing to me, as I have said, to be suspicious for more than one reason, I questioned the proprietor, for the purpose of getting information as to the past history of the animal. He ended by telling me, after a good deal of hesitation, that his watch-dog, which had acquired the fatal habit of biting other animals, had died two months before of a disease unknown to him, but which I, from his description, believed to be *rabies*. The symptoms shown by the dog were, absolute refusal to take any food,

irresistible desire to bite everything within his reach, weakness in the hinder-quarters, and, towards the end, paralysis of the lower jaw. "Your cow is rabid," I said to the owner, "and unfortunately it is very probable that others will become so too." The sequel was not long in showing that my gloomy forebodings were correct. On the 9th, the patient was in the same state, she was still eating what was offered to her, and she ruminated occasionally, but the weakness of the hinder-quarters increased, and on the 11th she was unable to rise; she tried indeed to get up but could not manage it. Her appetite had entirely vanished, and it was quite useless to offer her the food of which she had been fondest; she absolutely refused all food and all drink. From each side of her mouth there trickled through the labial commissures an abundant and viscous saliva, but in the buccal cavity not the slightest erosion of the mucous membrane was to be found to explain this salivation. The constipation had given place to diarrhœa, but the efforts in defecation were the same, only perhaps a little more frequent; there was complete prostration, total collapse of the physical powers; not even the slightest moan. On the 12th she died calmly and peacefully.

Eight days after the death of this cow, a two-year old heifer fell suddenly ill. I was sent for and found, as before, extreme weakness of the hinder-quarters, and constant stamping of the hind-legs, likewise curvature, that is to say, depression of the sacral region, this region forming, with the lumbar region, an angle of about 135 degrees; frequent efforts at defecation, with distinct constipation. Appetite and rumination ordinary, but absolute refusal to drink; no signs of *rabies*. Next day the animal did not rise; the paralysis had got the upper hand and become general. The beast was lying on her side, and her whole four limbs exhibited violent and continuous convulsive movements. Two days afterwards this heifer died, after only four days' illness, without making the slightest complaint or uttering the slightest moan.

On the 1st of December, another cow, eight years old, falls ill likewise, shows the same symptoms, and goes through the same course; extreme weakness of the hinder-quarters, curvature of the sacral region, violent expulsive efforts, obstinate constipation, inflation of the abdomen, suspended rumination, difficulty in swallowing, refusal to drink, etc. On the 7th this cow, which for four days had been unable to rise, died during the night, bellowing in the most terrifying manner.

The *post-mortem* of the three animals revealed somewhat vague lesions of gastro-enteritis throughout the entire length of the digestive canal. The spinal marrow presented in the lumbar region very pronounced ecchymoses, and the *pia-mater* showed a pretty distinct injection, which affected even the *arachnoid* and the *dura-mater*.

We have here a case of three cattle, the property of one man, dying, one after the other, at a few days' interval, and all presenting nearly the same symptoms, without the slightest sign of *rabies*, without any bellowing or groaning, except in the case of the third animal at its last moments. Then we have, on the other hand, the dog belonging to the owner of the cattle, which had the habit of biting the animals placed under its charge, dying two months before the first case was noticed, but presenting, as I think, characteristic symptoms of *rabies*; all these circumstances led me to formulate the same diagnoses for the three cases—*rabies paralytica* or *rabies tranquilla*.

I found my opinion corroborated when, a few days after this, another client sent for me and I found in one of his cows the identical symptoms described above. Here there was no doubt possible, for I knew that some of my client's animals had been bitten two months before by a shepherd's dog, and this dog was killed the next day and found by myself to have been suffering from *rabies*. The cow of which I speak died in a state of coma on the ninth day and was followed, three weeks after, by one of her neighbours.

These two separate outbreaks in different herds happened at the right time for me, as they gave my diagnosis that precision which would otherwise have been wanting and would have weakened it, not, certainly, to myself, but in the eyes of my clients and in those of my fellow-practitioners.

When the surgeon knows the antecedents of his patients, when he knows that the animals have been bitten two, three, or even four months before by a rabid dog, it is not difficult for him, on analysing the symptoms, to recognise *rabies paralytica* or *tranquilla*, but it is quite a different story when he has no information of the kind, for it may quite well happen that the animals have been bitten unknown to the proprietor. How is the surgeon to go about it, in order to form a proper diagnosis affirming the presence of the disease, which is *always* a sentence of death for the animal? He will take his stand on the three chief symptoms, which are never associated in any other disease. These are:—

1. Weakness (*paresis*) of the hinder-quarters.
2. Curvature, or declination towards the ground, of the sacral region and the croup.
3. Frequent and exaggerated attempts at defecation.

These symptoms are unfailing; I have observed them in all cattle attacked by *rabies paralytica* or *tranquilla*; they are therefore pathognomonic of this form of *rabies*, so common amongst our large ruminants and so frequently misunderstood. (*U. Faulon*, in the *Recueil de Médecine Vétérinaire.*)

Notes and News.

THE *London Gazette* notifies that during the week ended the 20th ult. cases of rabies were reported from the following counties:—Chester, 1; Lancaster, 3; London, 2; York, West Riding, 9—total, 15.

A LAMB WITH EIGHT LEGS.—A whitefaced ewe, belonging to Mr. Brown, Mains Farm, parish of Kilmalcolm, on Saturday last, gave birth to a lamb having eight legs, four ears, two tails, and one head with three eyes—two of the eyes on the front of the head, and one on the back of it. The lamb had two distinct bodies forward to the loins, where they united and formed one. Two of the legs were a little behind the back of the head. Both ewe and lamb died shortly afterwards.

A HORSE SOMNAMBULIST.—One of the United States army veterinary surgeons stationed at Fort Sheridan reports the following:—"While enjoying a sleep known only to the righteous, I was awakened about 1 a.m. the other morning by a guard from the quartermaster's department in an intense state of excitement summoning me to stable No. 60—the mule quarter—where, according to his version, one of Uncle Sam's best mules was in probably his last paroxysm of tetanus, hydrophobia, or some other equally dreaded malady. Upon reaching the stable, I found the mule lying broadside in his spacious stall, and to a casual observer he appeared to be in great distress; but after watching him carefully for a few minutes, I noticed his antics to be of a regular movement, as though walking, increasing in action, then decreasing, at about regular intervals. I concluded to get him up if possible, and make a careful examination; so giving him a stroke he arose immediately, looked around in a bewildered way, and proceeded to eat hay. On finding his pulse, temperature, &c., normal, and being informed that he was one of the mules used daily in the tread power of the sawing machine, I diagnosed it to be a well-defined case of somnambulism—and we all smiled."

CANADIAN CATTLE RESTRICTIONS—PROPOSED EXPERIMENT.—A correspondence has taken place between Mr. William Sutherland, Peel, Perthshire, and the President of the Board of Agriculture with reference to the continued closing of British ports to the importation of Canadian cattle. Mr. Sutherland

makes a proposal with the view of setting at rest the much-discussed question as to the existence or non-existence of contagious pleuro in Canadian cattle. He suggests that, on the opening of the Canadian cattle shipping season, a half score or so of bullocks should be sent him in sealed trucks out of any such suspected cargo—the selection of the animals to be left to the Government inspector—and he is prepared to take them on what might be considered their fair market value, and house feed them for six months along with home-bred stock on the following conditions :—(1) That in the event of any disease breaking out amongst them during the period of probation he would be permitted to adopt his own treatment ; (2) that in the event of the cattle being to all appearance free from any contagious or scheduled disease at the end of six months he should be allowed a free hand in the disposal of them. If on the expiry of the trial the cattle were declared by competent parties to be affected with contagious pleuro, he would, whilst submitting to their compulsory slaughter, claim no compensation whatever (provided the animals after slaughter were found affected), but retain and dispose of the carcases himself. Every facility would be offered for a thorough watch being kept over both premises and stock during the experiment. This letter is at present under the consideration of the Board of Agriculture.

A COUPLE of months back I devoted some space to the impudent trick practised by a party calling himself the "Star Veterinary Company," who sends out cases of cattle medicine without orders, and, after waiting long enough for the stuff to be consumed or thrown away, follows it up with a bill for £2 10s. It seems desirable to repeat the warning I gave, for a communication just received shows that the trick is still being practised, and, no doubt, there are many farmers and landlords still in danger of being victimised. The proper way to deal with the Star Veterinary Company is to refuse absolutely either to pay for the goods or return them. If the "Company" (as they probably will), bluster, threaten, send solicitors' letters, and eventually serve a county court summons, take no notice of them beyond instructing a competent solicitor to defend the action. They have gone the length of issuing writs in many cases, but they have never yet appeared in court, and are not likely to—unless taken thither on compulsion. Remember also, in dealing with these people, that if they issue a summons to a court more than twenty miles' distance from your place of residence, you can, by sending to the Registrar within four days an affidavit showing that you have a good defence, get an order (unless the Registrar is a purblind idiot) for the company to pay into court a sum of money as security for your costs. If you have still the goods in your possession, I would also recommend that a counter claim should be put in for a reasonable sum as payment for the storage of the goods during the time that they have been on your premises. I don't know whether the Star Company are still sending out their cases of medicine ; but should any of my readers in future receive these articles, I would suggest to them that they should follow the example of the gentleman whose case I quoted a fortnight ago—that is to say, give the company prompt notice that if they do not at once remove the goods a specified charge will be made for warehousing them. Should the "company" fail to fetch away the goods after this notice, the specified charge can then undoubtedly be recovered.—*Truth.*

IT is, I believe, intended after the recess to call the attention of the House of Commons to the grievances under which veterinarians suffer by the "reorganisation" of the former Veterinary Department of the Board of Agriculture. These grievances have been set forth in a report by the Council of the Royal College of Veterinary Surgeons, copies of which have been sent to veterinary societies throughout the kingdom, and by them forwarded to the members of Parliament in the various localities. It is contended that

there is now no "Veterinary Department," and that under the unmeaning title of "Animals" Department it is difficult to recognise the division of the Board which has hitherto been trusted with the suppression of disease amongst animals. Complaint is made that a layman is appointed principal of the Department, and is placed over the head of a scientific officer, who, on the retirement of Professor Brown, C.B., the late director of the Veterinary Department, might well have expected promotion to the vacant post and salary. He had not been promoted, and only received an additional £100 a year, while a lay officer with a shorter record of service was promoted to the principalship and given an increase of £400 a year. Under the old arrangement the two chief scientific officers jointly received £1,800 per annum; under the new the two scientific officers receive £1,525, so that the increase of the lay officer was at the expense of the scientific. This change is regarded as a reflection upon the capacity of the whole profession, and as one calculated to destroy the efficiency of the Department; and the Council energetically protest against a so-called "reorganisation" which removes from the hands of a professional expert the control and direction of a Department created for, and solely concerned with, the suppression of disease amongst live stock. The change of name of the Department and the change of position of the officers seem, the Council say, to be explainable only upon the supposition that the interests of the stockowner had been overlooked and the interests of the veterinary profession ignored. Whatever may be the official explanation, the Council cannot but recognise that whereas the form of organisation which had been in force sixteen years was eminently successful, and gave satisfaction to agriculturist and veterinarian, the new system has caused dissatisfaction and been accompanied by a striking want of success.—*Scotsman London Letter.*

THE NEED FOR PUBLIC SLAUGHTER-HOUSES.—At a meeting of the Church Sanitary Association, held at the Church House, Westminster, on Tuesday last, under the presidency of Dr. Norman Kerr, a paper, contributed by Mr. Francis W. Clark, Medical Officer of Health, Lowestoft, on "The need for Public Slaughter-houses," was read by the Rev. Canon Reith. The writer of the paper said there were numerous Acts designed to prevent the adulteration of food, but the motive of these had been, for the most part, the purely commercial one of depreciated value, and not the hygienic one of wholesomeness. The cocoa and vinegar sold by the grocer were sampled, and penalties inflicted if they were not pure; but when it came to our meat supplies, people were content to purchase anything, provided only that it "looked all right." Few sanitary authorities had seen the wisdom of providing for the due and proper slaughtering and the adequate inspection of all animals for human food, and a lesson might well be learnt from our Continental neighbours, who were far ahead of us in this respect. The slaughtering of animals for food was an operation which must necessarily be attended by a certain amount of nuisance and danger to the health of those in the immediate vicinity, unless it was carried out with the most ample sanitary conveniences and appliances, and, therefore, the English system of private slaughter-houses must be fraught with danger to the public health. The stabling of cattle, sheep, and pigs, in the actual slaughter-house itself were among the least of the defects of these private slaughter-houses, while over-crowding, deficiency of light, and of ventilation were to be found in almost all of them. The greatest danger, however, of the English system of slaughtering arose from the failure to detect and destroy all diseased and unwholesome carcases, and as a consequence much flesh was constantly offered for sale, especially in the poorer quarters, which was unfit for human food. It was unquestionable that tubercle could be conveyed to man by the ingestion of the flesh of tuberculous cattle, and it was an admitted fact that an appreciable proportion

of English cattle were tuberculous. One of the most important factors in the prevalence of consumption throughout England was the unrestricted use of milk from tuberculous cows and the eating of imperfectly cooked tuberculous beef. The public must be taught that they cannot estimate the quality of meat by a mere casual inspection, and he hoped that the Church Sanitary Association, and the clergy generally, would try and rouse public opinion to a truer recognition of the value of sound and wholesome food. After some remarks from the Chairman, Canon Reith, the Rev. M. C. F. Morris, and the Rev. E. G. C. Parr, the proceedings closed.

BLUNDERING WITH SWINE FEVER.—On the 1st of November, 1893, the Board of Agriculture delegated to themselves the work of stamping out swine fever. By that time pleuro had been pretty well stamped out by the ruthless and wholesale use of the pole-axe, and so the Board, no doubt, felt that, having succeeded in the Herculean work of stamping out pleuro by means of the pole-axe, they could easily stamp out swine fever in the same way. No doubt, this expectation would have been realised had the work of stamping out been gone about in a right way. But, so far from that being the case, the record of the Board's work in the dealing with swine fever, is one of disgraceful mismanagement, resulting in utter failure. Last year the number of deaths from swine fever was 7,231, as against 6,167 in 1893, before the stamping-out order came into operation. So prevalent was the disease last year all over the country, that no pigs could be shown at the "Royal" or the "Highland" Shows in summer, or at the Birmingham and Smithfield Shows in winter; and this year, again, pigs are to be excluded from the showyard of the "Royal," while, in all likelihood, they will also be excluded from the showyard of the "Highland." These results are not to be wondered at when regard is had to the way in which the work of stamping out the plague has been so grossly mismanaged. As an instance of the way in which the Board had conducted this work, Mr. Cunningham, M.R.C.V.S., Slateford, has recorded, in scarifying language, how dead and diseased pigs in the very centres of clusters of the large piggeries near Edinburgh, have been left for weeks to lie about till the inspectors of the Board should find it convenient to come and give orders for the slaughtering out of the herds in which the outbreaks had occurred. According to the regulations, the Board, on receiving notice of any outbreak, send down an inspector—who is generally some highly undistinguished naval or military officer—to take charge of the case, arrange for the valuation and slaughter of the pigs, and the disinfection of the premises. How far these regulations are being carried out may be judged from a case that recently occurred at Piershill, on the outskirts of Edinburgh. On the 8th of March, the Board were notified that an outbreak of swine fever had occurred in a large piggery. Some days after the Board had received this notification, an inspector appeared on the scene and called in a valuator to value the pigs prior to having the whole herd slaughtered out. The valuer in question proposed to put upon the pigs a value which was little more than one-half their real worth; but the owner indignantly refused to accept that price for his herd. The result was that both inspector and valuer disappeared from the scene, and although more than a month has elapsed since then, nothing further has been done by the Board in the way of stamping out the outbreak or in checking the sale of pigs from the infected herd. And now, after seventeen months of almost incredible mismanagement in the dealing with this disease, a Departmental Committee has been appointed to consider and report, in the course of the coming summer, as to whether the Board be going on the right lines or not. Most certainly no departmental or other committee was required to show any intelligent man that such wretched imbecility as the Board have displayed in the dealing with swine fever could result in nothing but the direst failure.—*North British Agriculturist.*

THE following is a brief summary of the Order in Council which has been passed by the Canadian Government in regard to the prohibition of live cattle importations from the Dominion. It is now under the consideration of the Government. The order states that a disease which appears from lesions in the lungs to have a particular type, alleged by the Board of Agriculture to be pleuro-pneumonia, has been found in about a dozen animals out of 193,860 slaughtered at the ports of landing since the autumn of 1892, and, it may be added, out of a total of 1,393,589 cattle shipped from Canada since 1880. The persistent and reiterated demand by the Board of Agriculture of the Canadian Government to furnish further information of such disease, based on expert examination of lungs after the slaughter of animals, cannot be complied with, for the reason that the disease cannot be found in Canada, notwithstanding diligent and repeated search. This fact leads to the confident belief that the disease does not exist in Canada, and to the conclusion that it is absolutely impossible to furnish any further information in regard to it unless by the discovery of cases in Canada. The indications are held to lead to the belief that the lesions of the lungs of the animals that have been under examination has resulted from the conditions of transportation both in Canada and on the voyage, to bad weather, and to insufficient ventilation. As the lesions have only been discovered in animals which have endured the hardships of travel, to the extent sometimes of from four to five thousand miles, it is claimed that the further information required by the Board of Agriculture can only be obtained in the United Kingdom. It is for these reasons that the veterinary experts in Canada have designated the disease transit-pneumonia. The Canadian Government claim that the inference of the Board of Agriculture that the disease, being bacterial or germ, must have been contracted in Canada, is not supported by evidence, and that there is nothing to show that it might not be contracted during transit. This is supported by the weight of the expert evidence at Mr. Garner's inquiry, which indicated that the lesions were of recent origin; and it is added that there is nothing in the present discoveries of bacteriological science to confirm the official inference that a bacterial or germ disease may not be developed under such conditions as those referred to. It is held, further, that experience has shown the disease to be non-contagious, and that this is proved by the fact that no cases of lung disease can be attributed to contact with Canadian animals, the Park Hill-Lindores case, in 1892, being put on one side as not supported by sufficient evidence. The severe test of the examination by veterinary experts of the lungs of a large number of animals slaughtered in different abattoirs in various parts of Canada for one month, is referred to in detail, no case of disease having been found. The conclusion of the Board of Agriculture, that contagious pleuro-pneumonia of a special type exists in Canada, is regarded as altogether irreconcilable with the fact that no cases can be found in Canada, and that the disease has never been known in any part of the Dominion, that declaration being made after very earnest search by veterinarians specially employed for the purpose. The report concludes with the offer that if the Board of Agriculture consider it advisable to send one or more veterinarians to Canada for any further elucidation of the facts, the Government will pay the expenses of the mission. The Montreal *Gazette*, referring to the Order in Council, states that the Government cannot make a stronger case; and that if it fails to restore a restoration of old privileges in the British market, it will be because of influences which are not under Canadian control.

THE Esquimaux dog, from his birth to his death—which, in many instances, is a violent one—never knows the luxury of shelter or a bed. He spends his existence outdoors, and appears to be more comfortable in winter than in summer. The pups, when hardly able to toddle, instinctively show an

ambition to run with sleighs, and join with their treble squeals the enthusiastic chorus of howls with which the Esquimaux dog invariably greets the first fall of snow, for the Esquimaux dog never barks. The ambition of the young dog is soon taken advantage of by the Esquimaux. The little fellows are hitched to sleighs in company with full-grown dogs, and to prevent them from being run over they are tied by the neck to the tow-line, so that when the run starts they are compelled to keep up, or be dragged by the team. This simple though brutal method of training is very effective, and after one or two runs the dog understands what is wanted of him. Even before he is full-grown he is thoroughly conversant with his duties. The much-referred-to intelligence of the Scotch collie, which is a sort of first cousin of the Esquimaux dog, is undoubtedly surpassed by that of his Arctic relative. Some of the characteristics of the Esquimaux draught dog are almost incredible. Anyone who has observed them finds it difficult to deny him the credit of reasoning power. The writer had one dog which persisted in feigning lameness or sickness in order to shirk duty. He would suddenly begin to limp dreadfully, and look back at his driver with a most pathetic expression. He succeeded several times in arousing my sympathy and being released from harness, until one of my Esquimaux assured me it was all trickery. After that I punished him whenever he tried to shirk, and in every case it would be days before any sign of lameness would be seen. He had a trick of slipping out of the harness, in which he was an expert, and made his escape from the ropes in a manner which would make a spiritualistic medium green with envy. This dog, through shirking his work, had incurred the enmity of the rest of his team, and they resented repeatedly his unwillingness to meet his part of the team's obligations. I saved him several times from the fierce onslaught of his colleagues after he had run away from the sled. A good Esquimaux leader dog is a wonder of intelligence. He is not guided by line or whip, but merely by whip or motions of the hands. If, when the team is rapidly moving, he be suddenly called upon to halt, it stands to reason that if he stopped abruptly the rest of the team and the sled would run over him, or become entangled in a snarl. He, therefore, when commanded to halt, makes a curve to the right or left and faces to the rear, moving slowly until the sled can be stopped. He then looks with bright eyes at the commander, waiting orders, and a motion of his hand suffices to make him change the direction in which the outfit is going. The leader, at least in some instances I have observed, is extremely proud of his responsibility, and, as a consequence, maintains an exclusive demeanour towards his colleagues. He sleeps by himself, and growls when approached by what he considers his inferiors. The worst punishment that can be inflicted upon a conscientious leader dog is to reduce him to the ranks. On the other hand, the dog that has been promoted at once assumes a self-conscious strut. Fidelity is the chief virtue of the Esquimaux dog. One of my leaders, when crippled by starvation and overwork, had to be abandoned because he refused to be carried on the sled. I left him behind, feeling as if I were tearing myself away from a dear friend, but before we continued our way I gave him the last fish we had, depriving ourselves of that much food. Three days afterwards, while we were encamping at the Esquimaux village of Kahonak, the dog reached us, having followed our trail with bleeding feet and emaciated body for eighty-five miles.

Extraordinary Career of a Government Commission.—In continuation of the controversy between the Edinburgh Master Butchers' Association and Mr. Shaw Lefevre of the Local Government Board on the subject of receiving a deputation on the subject of bovine tuberculosis, we have been handed a second print containing a letter from Mr. H. C. Monro of the Local Government Board to Mr. R. Addison Smith, S.S.C., the law agent of the

butchers; and extracts from "Hansard" sent by Mr. Addison Smith to Mr. Monro, which shows the dilatoriness of the Commissioners who were appointed to inquire into the subject of tuberculosis in cattle. The letter is as follows:—

Letter from Mr. Monro to Mr. R. Addison Smith.
Local Government Board, Whitehall, S.W.,
25th March, 1895.

DEAR SIR,—I beg to acknowledge the receipt of your letter of the 22nd inst, which I have shown to Mr. Shaw Lefevre.

It appears to have been written under considerable misapprehension of the facts of the case in regard to the report of the Royal Commission on Tuberculosis. That report is not yet prepared, and therefore it is not in the hands of the Government, and they are in no way responsible for the delay in its issue. When it is made, it will be made to the Queen, and having been presented to Her Majesty, will no doubt be laid before Parliament in the usual way.

Until the report is published, it is quite impossible for Mr. Shaw Lefevre to make any statement on the subject, and under these circumstances there would have been no advantage in his troubling a large deputation to come from Scotland to present their case. As I informed you on Friday by telegram, Mr. Shaw Lefevre was quite willing that the deputation which is to wait on him on Tuesday should contain one or two representatives from Scotland; and if, as you state, the trade in that country is "absolutely unanimous on the subject," I see no reason why one man should not be as well able as twelve or fifteen to express the views of his fellow-traders.

You do not allege that the interests of Scotland in this matter are different from those of England or of Ireland, and Mr. Shaw Lefevre hopes that, although you have declined the opportunity of presenting the case of Scotland to him at to-morrow's deputation, the considerations which will then be laid before him on behalf of the trade generally will be as representative of the Scottish section of it as of any other.—
Yours faithfully,
H. C. MONRO.

R. Addison Smith, Esq.

The Commissioners were appointed in 1890. They were Lord Basing, Professor Brown, Dr. George Buchanan, Mr. Frank Payne, and Professor Burdon Sanderson. After waiting for nearly three years for the report, members of Parliament interested in the subject, began to inquire when it might be expected. On the 2nd February, 1893, Lord Wolmer asked the President of the Board of Agriculture whether he was aware that much inconvenience had been caused by the delay in the publication of the report of the Departmental Committee, which was appointed more than two years ago to inquire into the question of tuberculosis, and whether he could inform the House when that report may be expected. The President of the Local Government Board (Mr. H. H. Fowler), said:—"The Royal Commission which was appointed in 1890, has not yet reported. I have communicated with the Commission, and the reply which I have received is that the Commission have not yet completed their inquiries, and that, at present, they are unable to state when their report will be made." On the 14th February, 1893, Mr. Yerburgh asked the President of the Board of Agriculture whether, in view of the recent Agricultural Conference having unanimously passed a resolution to the effect that tuberculosis should be included in the Contagious Diseases (Animals) Acts, he has taken any steps to secure an early report from the Royal Commission upon Tuberculosis. Mr. Gardner said in reply:—"We have frequently been in communication with the Royal Commission with regard to this matter, and every endeavour is being made by them to expedite the completion of their work so far as is compatible with complete scientific investigation of the questions committed to them. On the 11th April, 1893, Mr. Field again asked the President of the Local Government Board whether the bovine tuberculosis report was ready, and if not, when it may be expected. Mr. H. H. Fowler replied:—"The hon. member will probably recollect that, on the 17th March, I informed him that it was anticipated that the investigations of the Royal Commission might be completed by the end of June, and that the report would be presented as soon

as possible afterwards." The subject was again raised by Mr. Field on the 1st June, and Mr. W. Redmond asked the President of the Local Government Board to point out to the Commissioners the desirability of reporting as quickly as possible. On the 24th November, 1893, in reply to Mr. Field, Mr. H. H. Fowler stated that it was confidently expected the report would be issued next month. On the 8th December, 1893, Lord Wolmer asked the President of the Local Government Board whether it was expected that the departmental report on animal tuberculosis would be presented on an early date, and if not, whether, in view of the great pecuniary loss being suffered by butchers throughout the country, special representations would be made to the Committee to finish their inquiries (which had now extended over three years) and submit their report without further delay. In reply, the Secretary of the Local Government Board still expressed the confident hope the report would be issued that month. Sir. W. Foster, in replying to a question by Sir Mark Stewart, on the 18th December, said the report "will" shortly be issued. In reply to Mr. Field, on the 26th February, 1894, Mr. H. H. Fowler said—"The report will shortly be issued." On the 15th March, 1894, in reply to Mr. Field, Mr. Shaw-Lefevre said—"I am informed that the work of the Royal Commission on Tuberculosis is being proceeded with with all possible speed, and that it is hoped the report will be issued shortly." On the 10th May, 1894, Mr. Field again inquired about the report, and Mr. Shaw-Lefevre said—"I am informed by the Commissioners that satisfactory progress is being made with the report, which may shortly be expected. Mr. Field asked if a date could be fixed, "because," he added, "I have been asking questions upon this subject ever since I have been in the House." Mr. Shaw-Lefevre, however, could add nothing to the answer he had given. Mr. Chaplin on the 28th May asked the reason for the continued non-appearance of the report, and Mr. Shaw-Lefevre said—"The Royal Commission on tuberculosis was appointed on the 21st of July, 1890. I am informed by the Commission that they have completed the taking of evidence, but have been engaged upon a long and elaborate experimental inquiry. Owing to the illness of one of the inquirers, there has been a delay in the completion of one of the scientific reports, but this is now being revised in passing through the press. Immediately it is printed the Commissioners will meet, and their report may be shortly expected." Then on the 28th June, 1894, Mr. Field asked about the report, and reminded the President of the Local Government Board that this was "about the sixteenth time I have asked it." Mr. Shaw-Lefevre said, "the Commissioners are now considering their report." In reply to Mr. Hunter (the member for Aberdeen), Mr. Shaw-Lefevre said on the 20th July, 1894, "the report will shortly be issued," and in answer to Mr. Donald Crawford, who on the 13th August, 1894, inquired about the delay, the same stereotyped answer was made by Mr. Lefevre—"The report will shortly be issued." The report is not issued yet.—*From "Edinburgh Evening Dispatch," March 28th.*

Correspondence.

To the Editor of the VETERINARY JOURNAL.

SIR,—The case of pleuro-pneumonia in the horse, recorded by Mr. F. B. Byrne in the VETERINARY JOURNAL for April, although very interesting, still is open to criticism, which, with your permission, I intend to bring to bear on it. In the first place, with reference to the diagnosis, surely, given a case exhibiting symptoms of pain as described, with temperature 103°, respirations embarrassed, slight cough, nasal discharge, and pulse 70 with a full artery, and if after two sedative doses pain is relieved, it is not necessary to wait until the

next day to make a diagnosis, and to find on auscultation, a patch of consolidation near the base of the right lung, are we to believe that there are no diagnostic symptoms of pleurisy and pneumonia until this stage is reached?

Symptoms of pain preceding an attack of pleuro-pneumonia in the horse are by no means rare, but by careful observation we can generally discover the commencement of the respiratory affection, and adopt treatment in the early stages.

Next, with regard to treatment, Mr. Byrne writes in an egotistical manner, as if all practitioners indulged in the employment of stimulants and counter-irritants in a rash and injudicious manner, and that he is anxious to set them right. He should be aware that clinical experience has clearly demonstrated that both these measures, if adopted in suitable cases and in a judicious manner, are productive of the most beneficial results; also, that an intelligent practitioner, whether he be old or young, does not lay down lines of treatment for himself, expectant, heroic, or otherwise; he treats each case on its merits.

The case Mr. Byrne records is but an individual one, and he should consider that if it were treated on other lines, the result might have been similar.

The emaciated condition, the absence of pulsation in the arteries (?), and the profound debility, etc., are surely the most important indications for the employment of alcoholic stimulants. That this animal managed by chance to pull through without stimulants is no argument; it is simply a coincidence, and as "one swallow does not make a summer," so one case does not prove or contradict a theory.

We are told that for three days in this case the appetite was entirely in abeyance, and there was a temperature of 106°, pulse sometimes imperceptible, with occasional symptoms of pain in addition.

Surely carbonate of ammonia three times a day was a very trivial stimulant for such a serious case as this. If this case had been treated at the commencement by the judicious administration of alcoholic stimulants, and mustard to the sides of the thorax, and also the liberal use of quinine internally, a far safer recovery would have occurred.

I have seen many cases of this nature, in which the greatest relief was obtained from the use of counter-irritants, and the most beneficial results from the timely administration of alcohol, and I believe from the commencement in doing everything which will help to turn the scale in favour of the patient. I should be glad if Mr. Byrne would inform me if he has had practical evidence of the evil effects of stimulants and counter-irritants.—Yours, etc.,

T. H. SHERLOCK,
Student, Royal Dick Veterinary College.

Communications, Books, Journals, etc., Received.

BOOKS AND PAMPHLETS: "The Warble Fly," by Miss Ormerod; Appendix to the Report of the Minister of Agriculture, 1894.

LETTERS AND COMMUNICATIONS received from T. H. Sherlock, Esq.; North of England Veterinary Medical Society; Army Veterinary Department; Midland Counties Veterinary Medical Association; N. B. Agriculturist; Report of Royal Commission on Horse Breeding; Border Counties Veterinary Medical Society; J. Mathews, Esq., Bangor; Veterinary-Captain Pease; E. Wallis Hoare, Esq., F.R.C.V.S., Cork.

JOURNALS, ETC.: *Veterinarian; Veterinary Record; American Veterinary Review; Berliner Thierarzliche Wochenschrift; Recueil de Médecine Vétérinaire; Buchhandlung für Medicin und Naturwissenschaften; The Journal of Comparative Medicine and Veterinary Archives, Philadelphia; Bulletin of the Johns Hopkins Hospital, Baltimore.*